

# Resume Writing for Biomedical Engineers

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## **WHAT IS A RESUME?**

A resume is a simple marketing tool. You're marketing yourself to employers, with a detailed but concise summary of your skills, experience, and qualifications. Most employers have very limited time, and it's simply not possible for them to meet with every candidate for an open position. Resumes allow employers to quickly screen out unqualified applicants and invite only the most promising candidates for interviews.

**Remember: A resume will not get you a job offer, it will only get you an interview.** It's a critical first step, because plenty of qualified candidates have missed out on great jobs because their resumes didn't properly convey their credentials and they weren't invited for an interview.

## **KEY ASPECTS OF A RESUME**

There is some room for personal style in a resume, but there are certain guidelines that you always want to follow:

- **Start from scratch.** Don't use the resume design templates in Microsoft Word. Every resume made with them looks the same, and they can be very difficult to edit in the future. Don't copy your friends' or roommates' resumes, either. They don't always know as much as they think they know about writing a resume.
- **Readability.** Always assume your resume is one of dozens the employer has to review. The average hiring manager will visually scan your resume in about 30 seconds. If it's difficult to read, they may miss some of your qualifications...even if they're on the page. Make sure the font isn't too small and the text doesn't run together.
- **Neatness.** Is your resume "balanced" on the page? Have you made proper use of the space on the page? Does the resume look good before anyone even starts to read it? Have you used the same formatting throughout the entire document?
- **Proofread.** Your resume must be perfect! Even one mistake sends a message that you don't check your work...employers don't want sloppy workers that will make mistakes and cost them a lot of money.
- **Keywords.** When the employer scans your resume in those 30 seconds, they're looking for keywords: skills, experience, or qualifications that are relevant to the specific job they're trying to fill. If they don't see those keywords – even if you have those skills – the employer will throw your resume away and move on to the next one.
- **Technical Jargon.** This is tricky. You need to make your technical skills clear, especially since you're an engineer. But don't assume the first person to see your resume will be in your field! It might go to Human Resources first, and HR rarely knows anything about engineering, so make sure your resume is in plain English so anyone can understand it, or at least get the gist of it. In particular, avoid acronyms, abbreviations, and arcane slang.
- **Length.** With very few exceptions, **an undergraduate's resume must be exactly one page**, no more, no less. This means that sometimes, you can't include everything you want to say. Remember, a resume is a **brief** summary of your qualifications. If you want to go into detail, that's what cover letters and the interview process are for.
- **Emphasize your qualifications.** Remember that we read left to right, top to bottom. The most relevant information (relevant to the job you're applying for) must be at the top of the page. There's no guarantee an employer will read all the way to the end.
- **Quality.** Your resume must be printed on high-quality bonded resume paper with at least 25% linen content. Use only a laser printer, and never give an employer a photocopy.

## **GETTING STARTED**

So you're ready to write your resume? Great! But not so fast...do some brainstorming first. Take some time to list everything about yourself: think about all the courses you've taken here at BU or anywhere

else, write down **all** your skills, and think about all the places you've ever worked (remember that you don't have to get paid for it to count as work). Make a list of all your other activities, your professional associations, and think about all the projects you've worked on that don't fall under the category of "work" (remember it doesn't have to be a formal project like your Senior Project). Don't be concerned about whether everything you've written down will fit in your one-page resume. We'll worry about that later.

Now consider what your resume is going to be used for. Biomedical Engineers have a broad knowledge and skill set, because the requirements of biomedical engineering are so diverse. The results of your brainstorming session probably included a wide range of skills, courses, and experience. Which information you're going to emphasize on your resume depends on who you're sending the resume to.

## **CHOOSE YOUR FORMAT**

There are four basic styles of resumes:

### **REVERSE-CHRONOLOGICAL**

Also called simply "Chronological," this is the most common resume format. It's also the simplest to create. Education and Experience are each listed by category, in reverse-chronological (most recent first) order. The chronological resume is usually best for undergraduates and entry-level candidates. This handout will focus primarily on the chronological resume format.

### **FUNCTIONAL**

A functional resume differs from a chronological resume by concentrating on skills that you have used that relate to your stated objective rather than on the jobs you have had.

A functional resume is particularly effective if your work experience has not been closely related to your job objective, if you are changing careers, or if you are seeking a promotion. In this format you elaborate on the skills necessary to perform the desired job and how you have demonstrated those same skills in different types of jobs.

Because the Functional Resume is not recommended for most entry-level candidates, it will not be described in detail in this handout.

### **COMBINATION**

The combination chronological/functional resume uses elements of both styles. The qualifications (areas of effectiveness) of the functional resume remain within specific job/experience descriptions. The jobs/experiences are then grouped and categorized to show the strengths in two to four categories. This resume format is effective if at least some of your experience is related to the job objective, and also when the job objective has more than one component and you have experience in these different components (e.g., technical and management; sales and organizational).

Because the Combination Resume is not recommended for most entry-level candidates, it will not be described in detail in this handout.

### **CURRICULUM VITAE**

Also called a "CV," this is a highly specialized resume format used by those individuals seeking a teaching and/or research position in a postsecondary institution or high-level research industry. Information in all categories should be in reverse chronological order (the most recent data first).

The CDO has additional resources available that describe the CV in detail.

## CREATING YOUR CHRONOLOGICAL RESUME

The following sections will describe each category in a resume in the order they will most likely appear.

### CONTACT INFORMATION

If an employer doesn't know who you are or can't get in touch with you, your resume is useless to them even if you're the perfect person for the job. If your name isn't the first thing on the page, start over because you did something wrong. Put your name IN CAPS and try to make it at least one size larger than the rest of the text on the page. Remember, you want to be noticed. Use your full name, which looks more professional than a nickname like "Dave" or "Becky." Including your middle initial makes it look distinguished, too. Include your address, phone number, and an email address. Make sure the phone number is a place you actually want an employer to call you...it's preferable not to use a cellphone number, but if your roommate has a habit of answering the phone by saying, "yeah?" you might want to consider it. Check your voicemail greeting to make sure it sounds professional. Be careful about your email address, too...if it's something "clever" or "cute," you might want to use your BU account...bigpapifan@hotmail.com might get your friends' approval but you wouldn't want an employer to see it.

If you go home during the summer and want to make sure employers can reach you year-round, you can list two addresses, one labeled "Local" (or "School") and the other "Permanent" (or "Home"). Remember, your school address is your **mailing address** while you're in school...either in a dorm or an apartment, or even a post office box. The employer doesn't care what BU's main address is.

Additional information that can be included in this section:

- The URL of your website. Include this only if it's relevant to your objective or the position you're applying for...they don't care about your blog.
- US Citizenship or Green Card status. Use this only to confirm that you are indeed a citizen or resident alien, and only if the employer has specifically stated it's required for employment. If you have a visa, do not announce this on your resume, as it could give an employer a reason to reject you before they've even met you.

Note: unlike other sections of your resume, the Contact Information doesn't need to be labeled. Just start with your name.

### OBJECTIVE

The Objective Statement is one of the most important parts of the resume. It's also perhaps the most overlooked when people write their own resumes. You may have been told you don't need one, or that employers rarely pay attention to it. Forget both of these misconceptions. You **do** need an objective and employers **will** pay attention to it! Plenty of qualified applicants (even seasoned professionals) have had their whole resume overlooked because of a poorly crafted objective statement.

The Objective is a clear, concise statement that tells an employer what you're looking for. It gives them direction while reading the rest of the document. If the objective isn't in sync with the position they're trying to fill, the employer will immediately realize they're wasting their time reading the resume...but they might still forward it to another department you'd be a better fit for.

The Objective should be a single sentence, two at most. It can state the position you want and the skills you prefer it take advantage of, or it can be your long-term career goals. The amount of detail depends on how much you know about what you're looking for. If all you want is "An internship in Biomedical Engineering," that's a perfect objective statement. If you know more, for instance "An entry-level position in Biomedical Engineering, preferably in tissue regeneration research," that's perfect, too.

What you want to avoid are statements that focus too much on what you want to get out of the job. Employers are impressed by candidates that want to learn and continue to develop, but they're far more interested in what you can do for them, not what they can do for you, although you can get a little leeway if you're applying for an internship or co-op. **Never** make vague, meaningless statements like, "A challenging position in a team environment that will contribute to my professional growth." Those are a lot of words that tell an employer virtually nothing and make you look indecisive. Also try not to limit your opportunities. If there are certain criteria you hope your next job will have, include them with the word "preferably," so employers will know that you're open to discussing other opportunities, too.

Many people like to tailor the objective depending on the position they're applying for. There's nothing wrong with this, but don't make it too obvious. Employers aren't stupid and they read a lot of resumes...if your objective reads as an exact description of the job you're applying for, they'll probably know you wrote it just for them.

Whatever your objective, make sure that the rest of your resume supports it. Think carefully about the requirements of that objective: the skills it utilizes, the education it would build on, the experience it requires.

## EDUCATION

For most students and recent grads, this will be the first section on your resume. As the years go by and you acquire more experience in your field, eventually it will move down to the bottom of the page. But for now, your education is probably your best credentials.

Since this is a reverse-chronological resume, your most recent (or current) school should be listed first. Give the name in full, don't abbreviate it. You're not going to BU, you're at Boston University College of Engineering. Put the name in **bold** and follow it with the city and state. The next line should include your degree and major. Remember not to abbreviate...your degree isn't BS, it's a Bachelor of Science. You're studying Biomedical Engineering, not BME. If you have a concentration, you can include that. Also note any minors or dual majors. Follow the degree with the date of graduation, either on the same line or the next if it doesn't fit. Some people that are still in school prefer to say "Expected date of graduation:" and there's nothing wrong with that, but it's generally assumed when an employer sees a future date. You don't have to include the years you were in school, all that matters is when you got your degree (or when you're going to get it).

Create a subsection for your "Relevant (or "Related") Coursework." Do not list every class you've ever taken! It's very unlikely that an employer hiring an engineer will care about your humanities classes. List only classes that are related to your objective, or which are relevant to the specific job you're applying for. Remember that list might be different depending on the job, because different employers care about different things. Read the job description carefully! Freshman students may find they haven't taken any relevant courses yet, but think carefully...are you sure you haven't taken some basic introductory courses yet?

Then go back in time and list other schools you've been to, following the exact same format. Only list schools you actually have a degree from...if you transferred without getting a degree, don't include that school (but you can include courses in your Related Coursework as long as BU gave you transfer credits for them). You can list your high school, especially if you're a freshman (the degree would be "High School Diploma"), but only if you're having trouble filling the page. Rarely will high school help your job search, and by the time you're a senior it should definitely be gone from the resume.

Additional information you can include for each school:

- Your GPA, if it's at least a 3.2. If your GPA is higher in your major, you can list both or even just the major GPA, as long as it's clearly labeled as such.

- Dean's list/honor roll awards
- Merit-based scholarships (don't give the dollar amount, just note that you were awarded it)
- If you self-financed your education

What follows the Education section can vary quite a bit for students. **It should be whatever best shows your qualifications for the job you're applying for.** For some students, that may be their Senior Project. For others, it may be Experience, and for some students it may be Skills. Trust your instincts: if you believe your Skills are at this point more impressive than your Experience, you're probably right. If you think your Project is the best you have, go with that.

### PROJECT(S)

While you're here at BU, there's a good chance that your Senior Project may be the best hands-on experience you acquire within your field. It's very important that you describe your project in such a way that it clearly shows what you did, the skills you used, and what you learned, especially since many employers know about the project requirement here and will seek out this section on your resume.

Start with the title of your project. This should be the same title at the top of your abstract, although you may have to shorten it for space. Put the title in **bold** so it stands out. Include the dates of the project. If the project was sponsored by a company or organization, include that information as well as the location if you did your project outside of Boston.

Now that you've provided the basic information, you need to describe your project in detail. If the project title doesn't make it clear what the goal of the project was (especially to a layperson), describe that first but try to keep it to a single sentence. The rest of the description should be devoted to your role in the project. A paragraph style is usually easiest, but some people like to use a bulleted list instead. The key is to pretend that you're describing a job: focus on the tasks you performed, the skills you had to use (try to show the skills instead of saying them, by describing the tasks that required the skills), and any notable accomplishments. If you worked as part of a team, you can include that information but remember the most important information is what *you* did. Include any relevant numbers, quantitative data is always useful on a resume. Use "action verbs," a examples of which can found in this handout (avoid repeating the same verb too many times, look for synonyms). Whenever possible, start each sentence with a verb. For example, "Responsible for collecting and analyzing samples," reads much better as "Collected and analyzed samples." The description shouldn't read like an abstract...this information is for an employer, not an academician. Since they're in the field they may be fascinated to learn more about the project later, but right now all they care about are your skills.

If you did any other projects, for a class or even self-directed, you can include them in this section, too. But keep it brief...with few exceptions, the Senior Project is much more important.

### EXPERIENCE

Years from now, this will be the most important section of your resume. For now, however, it's probably somewhere in the middle of the page, or even near the bottom, because you just don't have as much experience as someone that's been out of school for several years.

Just like with Education, your experience will be listed in reverse-chronological order, with the most recent (or current) job first. However, it's not unusual that a student's most recent work isn't their most impressive. For instance, you may have done an internship last summer, but right now you're just working at Starbucks to earn a little spending money. For that reason, many student resumes actually have two experience sections, "Relevant Experience," and "Additional Experience." That way, the most notable experience is still higher up on the page. But don't be too quick to dismiss certain jobs as unimportant. Even if something was outside of your field, if it shows a high level of responsibility or

leadership on your part, it may impress an employer. At this stage of your career, almost any experience is good experience.

Each job listed under Experience requires four pieces of information: Job Title, Employer/Organization, Location (City, ST or Country if overseas), and Dates Employed. Don't label these categories, just list the information. List the Job Title first, because what you did is usually more important than where you did it. Put the title in **bold**. Every job has a job title, whether it's Lab Assistant, Intern, Volunteer, or Cashier. If you don't know your title, try asking your boss, or come up with one yourself that best fits your duties. But beware of "title inflation," because employers aren't stupid. If you worked at Target and list yourself as "Sales Representative," they'll see right through that.

Now you need to describe the job. As with your projects, focus on the tasks you performed, particularly any tasks that required marketable skills or which show responsibility. Be sure to list everything by order of importance, with the most impressive parts of the job first. Also note an accomplishments and include relevant numbers. You can use either a bulleted list or a paragraph. Bullets are usually easier to read, but some people are just more comfortable working in paragraphs, and they also tend to take up less space. Use action verbs and try to start each sentence (or bullet) with a verb, just like you did with your Project description.

Some jobs might not require a description because the job title says it all, especially if you're having trouble fitting everything on the page. After all, most employers probably know what a busboy or gardener does.

## SKILLS

You want to make sure employers know all your marketable skills, especially since you may not have had a chance to use them all on the job yet so you can't demonstrate them anywhere else on your resume.

Take a look at the list of skills you came up with during your brainstorming session. First, make sure they're all "hard skills." Hard skills are specific things you know how to do or tools you know how to use, like lab skills, computer skills, or even foreign languages. "Soft skills" are more subjective, like leadership skills, time management, grace under pressure, etc. These are great skills that employers want you to have, but they're not appropriate to list on a resume (but you can mention them in a cover letter, or show them on the resume by describing tasks you performed that required those skills).

Now that you've narrowed it down to your hard skills, break them down into categories. As usual, the most important information must be listed first, so the first skills you want to list are those that are specifically related to BME – like lab skills – or anything else that's specifically related to your objective or which was highlighted in the job description. In today's job market, computer skills are important for nearly any line of work...but you're a Biomedical Engineer, so obviously your BME skills should come first. Then you can move on to other categories, like Computer Skills or Language Skills. When it comes to computer skills, focus on applications that are really noteworthy...every college student knows how to use MS Office, that's not going to impress anyone.

**Do not "pad" your resume by listing skills that you only partially have!** If you're not qualified to make use of a particular skill, it's certainly not useful to an employer. Furthermore, employers do occasionally test applicants' skills when they see them on a resume. If your resume says you speak fluent Spanish and an employer suddenly starts speaking Spanish to you in the middle of an interview, you better be able to carry on a conversation without skipping a beat...and if you can't, the interviewer now considers you to be a liar and your interview might as well be over, because companies don't hire people that lie to them. Only list skills you actually want to use on the job, too. If you hate sitting in front of a computer writing code, don't bother listing your programming skills because an employer may expect you to be willing to use them.

## ADDITIONAL SECTIONS

At this point, you should have covered all of your professional qualifications. If not, go back because you probably made a mistake. But there may be additional information about yourself that you want employers to know about you, like certain honors or awards you may have received, extra curricular activities you're involved with, or any organizations you may be a member of. As long as you have room, you can include them at the bottom of the page. As usual, list them in order of importance: your membership in The Biomedical Engineering Society (BMES) is probably more important than running for the track team. Provide details when they're relevant, like any leadership roles you may have held in any clubs or organizations. If you have a large number of awards, activities, or professional associations you're a member of, you may want to list each category as a separate section on the resume. If the list is shorter, however, it may be better to group everything into a single category called "Activities and Awards," or "Honors and Activities," or whatever best describes the contents of that category.

## WHAT NOT TO PUT ON A RESUME

There are certain pieces of information that you should never include on your resume. These include:

- Your social security number. Who knows who's hands your resume could fall into? Identity theft is a very real problem, and they don't need your SSN until after you've been hired, anyway.
- Personal information that could be used to discriminate against you. An employer doesn't need to know your age, race, religion, gender, marital status, whether or not you have kids, your nation of origin, your weight, your height, your sexual orientation, or your politics. **None of that has anything to do with your ability to carry out the requirements of the job.** It's illegal for employers to even ask you for that information while you're applying, so you shouldn't volunteer the information.
- References. The only person who's name should be on your resume is yourself. It's good to have references that you can give to an employer when they ask, but they should always be on a separate document, which you give to the employer only after they've asked. It's common to conclude a resume with "References Available Upon Request," and there's nothing wrong with including that if you have room, but it's generally assumed by most employers that you can provide references when asked.
- Anything negative. Did you get fired from a previous job? Did you get laid off because your boss ran the company into the ground? Do you hate eating your vegetables? Whatever it is, keep it to yourself. You don't want to look like a complainer, and you certainly don't want to look like a backstabber. Only provide positive information about yourself, and never badmouth a previous employer, even if working for them was the worst experience of your entire life.
- First person pronouns. Using words like "I," "me," "my," etc, just doesn't look very professional. Avoid them, which should be easier if you're making an effort to start sentences with verbs. The only place it's appropriate to use a first person pronoun is in your Objective statement or possibly referring to "we" on a group project, but try to avoid it.
- Your picture. You applying for a professional position, not auditioning for a TV show. They don't need a headshot.

## THE FINAL STEPS

Finished writing your resume? Great! But you're not done yet. First, give your resume "the glance test." How does it look on the page? Is there too much blank space or does the text all run together? Is it balanced on the page and mostly symmetrical? Did you make excessive use of *italics*, underline, or any other formatting? (it's good to use formatting to add emphasis, but don't overdo it) Did you go over a page? You might need to make some hard decisions and remove some of the least important information.

Next, you need to proofread. This is a critical step, because even one spelling or grammar mistake can sink your candidacy. Don't rely on the spellchecker, sometimes you might misspell a word so that it comes out as another real word. But don't proofread right away, you won't notice all the mistakes. Take a break, have a snack, call your boyfriend or girlfriend or go take a nap. When you're ready to come back, print out a hardcopy and proofread from that, you're far more likely to notice mistakes on the page than on the screen. A hardcopy will also let you perform a second "glance test." Then, give your resume to a friend or roommate and have them proofread it, too.

And don't forget the final step: **BRING YOUR RESUME TO THE CDO AND LET US CRITIQUE IT FOR YOU!** This handout doesn't mean you're expected to do it all by yourself. We're here to help you, so take advantage of our services!

## **KEY BME TERMS**

Be careful with the use of these terms. Remember that the first person to see your resume might not be an engineer!

|                              |                           |                           |
|------------------------------|---------------------------|---------------------------|
| 3-D mapping                  | Heterogeneity             | PCR                       |
| AD converter                 | Hydrophilic               | Plated                    |
| Affinity chromatography      | Hydrophobic               | Platelet                  |
| Algorithms                   | Image processing          | Pressure transducer       |
| Analog circuit               | Impedance                 | Proprioception            |
| Anatomical                   | Implants                  | Pumps                     |
| Assay                        | Input                     | Purification              |
| Bioinformatics               | Instruments               | Respiratory               |
| Biomechanics                 | Inverse dynamic equations | Restriction mapping       |
| Biosignal                    | Ion channels              | Saccadic eye movement     |
| Biotechnology                | Isolation                 | Sensory                   |
| Cardiac                      | Kinematic Analysis        | Sequence                  |
| Circulatory                  | Laser-etching             | Signal processing         |
| Clinical equipment           | Math modeling             | Spectrophotometer         |
| Compression                  | Medical device            | Statistical analysis      |
| Computational Algorithms     | Medical instrumentation   | Stents                    |
| Concentration                | Membrane                  | Stimuli                   |
| CT                           | Membrane filtration       | Stochastic Resonance      |
| Culture                      | Microfluidizers           | Theory                    |
| Cytometry                    | Micromotion               | Stroke                    |
| Diagnostic                   | Microprocessor            | Subcloning                |
| Digital signal processing    | Model fitting             | Surface area              |
| ECG                          | MRI                       | Time and frequency domain |
| Electrochemical              | Multiple Model Technique  | Transducer                |
| Electromyographic            | Neuroanatomical           | Ultrasound                |
| Electrophoresis              | Neuromuscular             | Ventilator                |
| Encoder                      | Neurosurgical             | Voltage                   |
| FDA                          | NMR spectroscopy          | Web-based model           |
| Filters                      | Oscillator                | Wet-lab                   |
| Forced oscillatory technique | Output                    | Wet-mounts                |
| Genetic                      | Parameter estimation      |                           |
| GMP                          | program                   |                           |

## **ACTION VERBS**

Good use of action verbs can mean the difference when it comes to getting your foot in the door and being invited for an interview. Remember, a hiring manager probably sees dozens of resumes for each position they're trying to fill, each with a similar list of skills and experience. The key is to make sure yours gets noticed. When describing experience, try to start each sentence with an action verb. Don't use the same verb repeatedly, and don't limit yourself to this list.

**A-B:** accelerated, acclimated, accompanied, accomplished, achieved, acquired, acted, activated, actuated, adapted, added, addressed, adhered, adjusted, administered, admitted, adopted, advanced, advertised, advised, advocated, aided, aired, affected, allocated, altered, amended, amplified, analyzed, answered, anticipated, appointed, appraised, approached, approved, arbitrated, arranged, ascertained, asked, assembled, assigned, assumed, assessed, assisted, attained, attracted, audited, augmented, authored, authorized, automated, awarded, avail, balanced, bargained, borrowed, bought, broadened, budgeted, built

**C:** calculated, canvassed, capitalized, captured, carried, out, cast, cataloged, centralized, challenged, chaired, changed, channeled, charted, checked, chose, circulated, clarified, classified, cleared, closed, co-authored, cold, called, collaborated, collected, combined, commissioned, committed, communicated, compared, compiled, complied, completed, composed, computed, conceived, conceptualized, concluded, condensed, conducted, conferred, consolidated, constructed, consulted, contracted, contrasted, contributed, contrived, controlled, converted, convinced, coordinated, corrected, corresponded, counseled, counted, created, critiqued, cultivated

**D:** debugged, decided, decentralized, decreased, deferred, defined, delegated, delivered, demonstrated, depreciated, described, designated, designed, determined, developed, devised, devoted, diagrammed, directed, disclosed, discounted, discovered, dispatched, displayed, dissembled, distinguished, distributed, diversified, divested, documented, doubled, drafted

**E:** earned, eased, edited, effected, elected, eliminated, employed, enabled, encouraged, endorsed, enforced, engaged, engineered, enhanced, enlarged, enriched, entered, entertained, established, estimated, evaluated, examined, exceeded, exchanged, executed, exempted, exercised, expanded, expedited, explained, exposed, extended, extracted, extrapolated

**F-H:** facilitated, familiarized, fashioned, fielded, figured, financed, fit, focused, forecasted, formalized, formed, formulated, fortified, found, founded, framed, fulfilled, functioned, furnished, gained, gathered, gauged, gave, generated, governed, graded, granted, greeted, grouped, guided, handled, headed, hired, hosted

**I:** identified, illustrated, illuminated, implemented, improved, improvised, inaugurated, indoctrinated, increased, incurred, induced, influenced, informed, initiated, innovated, inquired, inspected, inspired, installed, instigated, instilled, instituted, instructed, insured, interfaced, interpreted, interviewed, introduced, invented, inventoried, invested, investigated, invited, involved, isolated, issued

**J-M:** joined, judged, launched, lectured, led, lightened, liquidated, litigated, lobbied, localized, located, maintained, managed, mapped, marketed, maximized, measured, mediated, merchandised, merged, met, minimized, modeled, moderated, modernized, modified, monitored, motivated, moved, multiplied

**N-O:** named, narrated, negotiated, noticed, nurtured, observed, obtained, offered, offset, opened, operated, orchestrated, ordered, organized, oriented, originated, overhauled, oversaw

**P:** paid, participated, passed, patterned, penalized, perceived, performed, permitted, persuaded, phased, out, pinpointed, pioneered, placed, planned, polled, prepared, presented, preserved, presided, prevented, priced, printed, prioritized, probed, processed, procured, produced, profiled, programmed, projected, promoted, prompted, proposed, proved, provided, publicized, published, purchased, pursued

**Q-R:** quantified, quoted, raised, ranked, rated, reacted, read, received, recommended, reconciled, recorded, recovered, recruited, rectified, redesigned, reduced, referred, refined, regained, regulated, rehabilitated, reinforced, reinstated, rejected, related, remedied, remodeled, renegotiated, reorganized, replaced, repaired, reported, represented, requested, researched, resolved, responded, restored, restructured, resulted, retained, retrieved, revamped, revealed, reversed, reviewed, revised, revitalized, rewarded, routed

**S:** safeguarded, salvaged, saved, scheduled, screened, secured, segmented, selected, sent, separated, served, serviced, settled, shaped, shortened, showed, shrank, signed, simplified, sold, solved, spearheaded, specified, speculated, spoke, spread, stabilized, staffed, staged, standardized, steered, stimulated, strategized, streamlined, strengthened, stressed, structured, studied, submitted, substantiated, substituted, suggested, summarized, superseded, supervised, supplied, supported, surpassed, surveyed, synchronized, synthesized, systematized

**T-W:** tabulated, tailored, targeted, taught, terminated, tested, testified, tightened, took, traced, traded, trained, transacted, transferred, transformed, translated, transported, traveled, treated, tripled, uncovered, undertook, unified, united, updated, upgraded, used, utilized, validated, valued, verified, viewed, visited, weighed, welcomed, widened, witnessed, won, worked, wrote

## ANITA L. RODRIGUEZ

781-555-6712  
gonita@yahoo.com

### School

700 Commonwealth Ave, #9961  
Boston, MA 02215

### Home

39 Cianci Blvd  
Moblock, RI 02816

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### OBJECTIVE

Highly motivated rising Sophomore seeking a summer internship or research experience in Engineering, preferably in the field of Biomedical Engineering or Biotechnology

### EDUCATION

**Boston University, College of Engineering**, Boston, MA  
Candidate for Bachelor of Science in Biomedical Engineering  
Expected date of completion: May, 2011

GPA: 3.33 out of 4.00

#### Selected Coursework:

Design and Manufacture  
Stem Cells and Cloning  
Engineering Computation

Physics  
Advanced Calculus  
General Chemistry

**Wyzegie High School**, Moblock, RI  
High School Diploma, June, 2007  
GPA: 3.81 out of 4.00

### EXPERIENCE

**Server**                      **Ralph's Coffee Shop**                      Moblock, RI                      Summer, 2007

- Greeted and seated customers, took orders and delivered meals to tables
- Closed once a week, responsibilities included cashing out and counting register receipts

**Barista**                      **Starburnt Coffee**                      Moblock, RI                      Fall 2006 – Spring 2007

- Took and filled orders
- Worked part-time during school week while still maintaining high academic standards

### ACTIVITIES and ASSOCIATIONS

Biomedical Engineering Society (BMES) at BU, member since 2007  
Society of Women Engineers (SWE), member since 2007  
Society of Hispanic Professional Engineers (SHPE), member since 2007  
The Drama Society, Wyzegie High School

## **ZHUANGLI (MICHAEL) XENG**

United States Citizen

**Local Address:** 700 Commonwealth Avenue, Box 9076 · Boston, MA 02215 · (617) 555-3591

**Home Address:** 8 Sandy Brook Lane · Golden, CO 80402 · (719) 555-9240  
**zenzen@bu.edu**

|                        |   |                     |  |
|------------------------|---|---------------------|--|
| OBJECTIVE              | A summer internship in Biomedical Engineering   |                     |  |
| EDUCATION              | <b>Boston University College of Engineering</b> , Boston, MA  |                     |  |
|                        | Bachelor of Science, May, 2009  |                     |  |
|                        | Biomedical Engineering Major  |                     |  |
|                        | <b>Technical University of Dresden</b> , Dresden, Germany   |                     |  |
|                        | Semester-long Study Abroad Program, Spring, 2008  |                     |  |
|                        | <b>Relevant Coursework:</b>   |                     |  |
|                        | Organic Chemistry, Mechanics, Engineering Physiology, Electric Circuit Theory, Molecular Biology, Introduction to Electronics, Tissue Engineering and Drug Delivery, Signals and Systems, Macroeconomics  |                     |  |
| PROJECT                | Designed, constructed and tested a Truss bridge model according to specified dimensions. Developed designs and predicted points of failure using WinTruss computer application.   |                     |  |
| SKILLS                 | MATLAB, C++, Infrared Spectroscopy, AutoCAD<br>Fluent in Mandarin and Cantonese Chinese   |                     |  |
| EXPERIENCE             | <b>Work Study</b>   | Fall 2007 – Present |  |
|                        | <b>BU Personal Computing Center</b>   | Boston, MA          |  |
|                        | <ul style="list-style-type: none"><li>• Troubleshoot and repair computing problems for University faculty, staff, and students</li></ul>  |                     |  |
|                        | <b>Dean’s Host</b>  | Fall 2007 – Present |  |
|                        | <b>BU College of Engineering</b>  | Boston, MA          |  |
|                        | <ul style="list-style-type: none"><li>• Represent the College of Engineering at formal functions including Parents’ Weekend and Open House</li><li>• Conduct campus tours and address questions for prospective students and their families in groups of approximately 20</li></ul> |                     |  |
|                        | <b>Sales Associate</b>  | Summers 2006, 2007  |  |
|                        | <b>Victory Sporting Goods</b>   | Golden, CO          |  |
|                        | <ul style="list-style-type: none"><li>• Regularly surpassed weekly sales goals</li></ul>  |                     |  |
| ACTIVITIES & INTERESTS | Biomedical Engineering Society (BMES) at BU, member since 2007  |                     |  |
|                        | The Asian Society at Boston University, member since 2007   |                     |  |
|                        | Personal interests include hiking, camping, and fantasy baseball  |                     |  |

## JENNIFER Z. WILSON

### School Address

10 Buick St, Box 1234

Boston, MA 02215

617.555.8913

### Permanent Address

123 Any Street

Lenox, MA 01240

413.555.9876

mxwilson@bu.edu

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**OBJECTIVE** An entry-level position in Biomedical Engineering that will utilize my electrical design skills.

**EDUCATION** **Boston University College of Engineering**, Boston, MA  
Bachelor of Science in Biomedical Engineering, May 2007  
GPA: 3.4/4.0

### Relevant Coursework:

Quantitative Physiology of Hearing, Thermodynamics, Medical Imaging, Systems Physiology, Engineering Physiology, Organic Chemistry, Biomedical Solid Mechanics, Digital Signal Processing, Electrical Circuit Theory, Logic Design, Signals and Systems

**PROJECTS** **Senior Design Project:**

“Improvement of the Multi-electrode Chronic Recording Techniques in the Hippocampus”  
Enhanced the mechanical design of multi-electrode surgical implants, to monitor for neural activity in the subject. Developed analysis software for identifying and observing real-time neural activity states as the subject performs a memory allocation task. Illustrated all aspects of new procedure using AutoCAD software. Authored project proposal and final report, conforming to all patent and intellectual property laws. Presented final proposal at BU Dept. of Biomedical Engineering 20<sup>th</sup> Annual Senior Design Conference.

### Additional Design Projects:

- Designed a 32-bit fully pipelined RISC CPU using Cadence software
- Constructed a circuit simulating saccadic eye movements using operations amplifiers
- Created a truss and developed MATLAB code to analyze member forces
- Designed and constructed a motor tester with AutoCAD software

**SKILLS** **Laboratory:** Nuclear magnetic resonance, gas chromatography, autoclave, ultra violet spectrometer, thermocycler, fluorescent microscope, gel electrophoresis, cell culture, cell fixation, antibody staining, southern blot, infrared spectrometer, DNA extraction, PCR  
**Computer Applications:** MATLAB, Cadence, AutoCAD, Autodesk Inventor, MathCAD

**EXPERIENCE** **Research Assistant** August 2005 – May 2006  
Computational Neurophysiology Laboratory, Boston University Boston, MA

- Constructed multi-electrode drive surgical implants allowing for monitoring of neural activity
- Execute experiments requiring rats to detect a target sound on a maze
- Assisted in coding of analysis software

**Teller** September 2004 – May 2005  
Citizens Bank Boston, MA

- Processed account transactions and verified cash totals

**PROFESSIONAL ASSOCIATIONS** Biomedical Engineering Society (BMES), member since 2004  
National Society of Black Engineers (NSBE), member since 2006  
Women in Industry Network (WIN), member since 2005

## MICHAEL Q. YEMILOW

123 Michaels St, Apt 4, Somerville, MA 02236 617.555.1234 mgy@gmail.com

### OBJECTIVE

An entry-level Engineering position with an emphasis on the research and development of Medical Devices

### EDUCATION

**Boston University College of Engineering**, Boston, MA

Bachelor of Science, Biomedical Engineering, May 2007

Recipient of the John Q. Smith Memorial Scholarship for Academic Excellence, 2005

### Related Coursework:

Numerical Modeling & Biomedical Systems, Biomedical Devices & Systems, Biomechanics, Biomedical Measurement & Analysis Lab, Fundamentals of Programming, Biomedical Instrumentation Lab, Bioelectric Systems, Cardiovascular Engineering, Organic Chemistry, Biomedical Imaging, Entrepreneurship

### PROJECTS

**Senior Project:** "Diagnostic Software for the Detection of Sickle Cell Anemia," Spring 2006

Developed a neural network that diagnoses Sickle Cell Anemia, using image analysis and feature extraction methods. Programmed diagnostic software in Visual Basic, running on a Windows platform. Maintained detailed notes of test results, following established protocols for sickle cell detection. Presented final results at BU's Department of Biomedical Engineering "21<sup>st</sup> Annual Senior Project Conference."

### Wireless Electrocardiogram

Leading a team of 4 students, created a wireless ECG recorder using transmitters/receivers. Prepared all project plans, work schedules, timelines, and documentations. Designed signal processing using Biopac Student Lab.

### SKILLS

**Laboratory:** Biopac, Instron, Oximeter, Pulse Plethysmograph, Cell Cultures, In-Situ Analysis, Reagent Preparation, Condensations, Extractions, TLC, Various Assays, Six Sigma

**Computer:** LabVIEW, MATLAB, SIMULINK, Visual Basic, C

**Languages:** German

### EXPERIENCE

**Research & Development Co-op**

September 2005 to January 2006

Boston Scientific

Watertown, MA

- Designed and conducted a statistical gage test for repeatability and reproducibility for a cantilever bend test method used to quantify the stiffness of a colonoscope
- Analyzed statistical data according to Six Sigma methodology
- Tested a variety of equipment using methods including three-point bend, torque, column strength, and cantilever test methods. Authored technical scientific reports on test results
- Successfully completed training in Hazardous Materials, Good Documentation, and on various standard operating procedures
- Presented final research results at Boston Scientific's Summer Intern Presentation

### Work Study

September 2004 to June 2005

Career Development Office, BU College of Engineering

Boston, MA

- Scheduled appointments for career counselors, answered phone calls and greeted visitors

### ACTIVITIES and HONORS

Biomedical Engineering Society (BMES), member since 2003

Alpha Eta Mu Beta (AEMB), National Biomedical Engineering Honor Society, member since 2006

Boston University Varsity Crew, team member 2004-2006

## MIHAK RAMAKRISHNAN, PhD

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### OBJECTIVE

To apply my experience in tissue engineering, molecular biology and chemistry to develop and test new bio-medical products and biotherapeutics for the healthcare industry.

### PROFESSIONAL EXPERIENCE

**Boston University, Department of Biomedical Engineering, Boston, MA**

**January 2006 - present**

**Postdoctoral Research Associate.**

- Skin wound healing and tissue engineering research using cell populated 3D collagen hydrogel scaffolds as a skin model
- Polymer synthesis and *in vitro* investigation of soy bean derived triglycerides and co-polymers for use as a potential skin substitute
- Optimized the novel application of a Dynamic Mechanical Analyzer (DMA) for use in the mechanical loading of cell seeded scaffolds
- Investigated gene expression of cells at the cell-biomaterial interface using qRT-PCR
- Developed 3D *in vitro* breast cancer model incorporating both healthy and cancer cell lines to investigate cell behavior in the 3D environment using confocal microscopy and qRT-PCR

**McGill University, Department of Surgery, Montreal, QC**

**July 2003 – December 2005**

**Postdoctoral Research Associate.**

- Molecular biology research of pig connective tissue cells in 3D collagen gels as a skin wound model
- Isolated pig skin, ligament, tendon and synovial primary cells using tissue explant techniques and investigated the influence of the wound healing growth factor, TGF B<sub>1</sub>
- Compared the genetic expression of two strains of pig cells, Yorkshire and Red duroc, using semiquantitative RT-PCR

**New York University, Department of Chemistry, New York, NY**

**May 2002 – October 2002**

**Research Assistant.**

- Synthesized a series of amino acid based building blocks using alkene metathesis for a combinatorial chemistry library

### EDUCATION

**New York University, Department of Chemistry, New York, NY**

Doctor of Philosophy, Inorganic Chemistry, December, 2002

- Developed, synthesized, characterized and conducted preliminary polymerization testing of metal based complexes as potential olefin catalysts
- Purification techniques involved column chromatography and recrystallization
- Characterization techniques included <sup>1</sup>H, <sup>13</sup>C, <sup>31</sup>P NMR spectroscopies, X-ray crystallography

**New York University, Department of Chemistry, New York, NY**

Bachelor of Science, Chemistry, December, 1998

First class Honors

- Developed, synthesized and characterized gold(I) phosphine based carboranes for potential use as anticancer agents in Boron Neutron Capture Therapy (BNCT)

**American Institute of Applied Science, Youngsville, NC**

Diploma in Forensic Science, August, 2005

- Subjects studied by correspondence include Crime Scene Investigation; Modus Operandi; Questioned Documents; Firearms Identification; Police Photography: Fingerprint Recording and Latent Print Development

### RESEARCH SKILLS

**Chemistry:** NMR spectroscopy, UV-vis, FTIR, ESI-MS, GC-MS, TLC, Column chromatography, recrystallization, Schlenk lines, argon glovebox

**Tissue Engineering/ Cell and Molecular Biology:** Primary mammalian cell culture, tissue explant, cell viability and proliferation assays, collagen hydrogel matrix preparation, Col-GAG mesh preparation, RNA and DNA isolation, qRT-PCR, semiquant RT-PCR, protein isolation, Western blot, immunocytochemistry, fluorescent and confocal microscopies, cell/ scaffold mechanical loading using DMA

**Computer Applications, (1) Software:** ChemOffice, QuantityOne, ImageJ, TA Universal Analysis, SDS qPCR Analysis, FluoView; **(2) Databases:** SciFinder Scholar, Genbank, BLAST, MultAlin

## MIHAK RAMAKRISHNAN, PhD

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### AWARDS

McGill University, Department of Surgery, Montreal, QC

October 2001 – April 2002

#### *International Resident Fellowship*

- Synthesis and characterization of scandium(III) and yttrium(III) based organocomplexes
- Used argon glovebox and swivel frit glassware for oxygen exclusion synthesis
- Characterization involved air sensitive  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectroscopy at ambient and variable temperatures

### PUBLICATIONS

A New Chelating Anilido-Imine Donor Related to the B-Diketiminato Ligands for Stabilization of Organoyttrium Cations. J.G. Hanes, U.C. Wolsh, D. X. Emslik, M. Ramakrishnan, W.E. Piers, M. Parvez, *Organometallics*, **2003**, 22, 1577

*N*-Allyl-*N*-(2-nitrobenzenesulfonyl)-L-phenylalanine methyl ester, Sally-Anne Hukster, Mihak Ramakrishnan, Michael K. Twinson, *Acta Crystallographica Sect. E.*, **2003**, E59, o967-o968

(2-Bromophenyl)diphenylphosphine, Hank L. Williams, Mihak Ramakrishnan, Teresa V. Uklm, Michael K. Twinson, *Acta Crystallographica Sect. E.*, **2002**, E58, o419-421

(2-Chlorophenyl)diphenylphosphine, Hank L. Williams, Mihak Ramakrishnan, Teresa V. Uklm, Michael K. Twinson, *Acta Crystallographica Sect. E.*, **2002**, E58, o306-o307

### TEACHING EXPERIENCE

Boston University, Boston, MA

2006

- Taught graduate students how to maintain general cell culture, design a controlled experiment incorporating biological samples, develop 3D collagen hydrogel experiments, extract RNA and DNA from mammalian cells, acquire and analyze qRT-PCR data, image live cells and bacteria using fluorescent microscope, image live cell populated 3D collagen scaffolds using confocal microscope, prepare agarose for electrophoresis DNA gels, functionalize carbon nanotubes

McGill University, Montreal, QC

2003-2005

- Taught graduate students how to isolate mammalian primary cells via tissue explant techniques
- Taught graduate students how to maintain general cell culture
- Wrote protocols for multiple pieces of laboratory equipment and experimental designs to allow future students to learn independently

New York University, New York, NY

1999-2002

- Tutored classes of 30-40 students for a first year chemistry course
- Taught laboratory sessions of 20-30 students for first year chemistry, 2<sup>nd</sup> year organic chemistry, 2<sup>nd</sup> year inorganic chemistry

### PROFESSIONAL ASSOCIATIONS AND CONFERENCES

"Methods in Bioengineering" mtg, Cambridge, MA, July 2006

"New Developments on Polymers for Tissue Eng., Replacement and Regeneration" mtg, Funchal, Portugal, June 2006

Wound Healing Society mtg, Scottsdale, AZ, May 2006

Wound Healing Society mtg, Chicago, IL, May 2005

Brisbane Inorganic Chemistry Symposium, Brisbane, QLD, Australia, April 1999

First Singapore Chemical Conference, Singapore, November 1998

Wound Healing Society (WHS), member since March 2005