**Biographical Information**

Please enter your name as it appears on your passport and/or birth certificate

Name: Last  Bai   First  Lu   Middle  

Do you have or have you gone by any other name?  

Last  Bai   First  Lulu   Middle  

Street Address 1  2445 King Forrest Dr.   Street Address 2  

City  Mississauga   State/Province  ON   Postal code  L5K2P1   Country  Canada   Valid until: 12-30-2012  

Phone: 607 - 3515569   Cell:  

Email address: lb438@cornell.edu  

Citizenship Status:  

- < ☐ U.S. Citizen  ☑ U.S. Permanent Resident  ☑ Foreign National  
- Birth Date: 06-12-1990  
- Country of Citizenship: Canada  
- City of Birth: Putian  
- Country of Birth: Canada  
- Home Country Address: 2445 King Forrest Dr., Mississauga, Ontario  L5K 2P1  Canada  905 - 4880845  
- Veteran of U.S. Armed Forces?  ☑ Yes  ☐ No  
- Currently enrolled in a Cornell Grad program?  ☐ Yes  ☑ No  
- Previously attended Cornell?  ☐ Yes  ☑ No  
- If Yes, Start Date: 08-24-2008  
- End Date: 05-28-2012  

U.S. Citizens and Permanent Residents Only: The U.S. Department of Education requires Cornell University to report on the racial or ethnic composition of its student enrollment, but self-identification is entirely voluntary. Please answer the following two questions:  

Are you Hispanic or Latino (a person of Cuban, Mexican, Puerto Rican, South or Central American, or Spanish origin)?  ☑ Yes  ☐ No  

Please select one or more of the ethnicities with which you identify:  

- ☐ American Indian or Alaskan Native  
- ☑ Black or African American  
- ☑ White / Caucasian  
- ☐ Asian American  
- ☐ Native Hawaiian or Other Pacific Islander  

**Academic Information**

Proposed Field of Study: Operations Research and Information Engineering.  

Proposed Degree Program:  

Proposed Term and Year of Admission: Fall 2012  

**List all colleges or universities you have attended or are now attending:**

| School Name 1 | Cornell University | CEEB: 1734318 | Attended From: 08-2008 |  
| City: Ithaca | State/Province: NY | Country: United States | Attended To: 05-2012 |  
| Major Subject: BEE | Degree Earned: B.S. | Degree Date: 05-2012 | GPA: 3.94 | Scale: 4.3 |  

| School Name 2 | University of Toronto | CEEB: 1712810 | Attended From: 05-2009 |  
| City: Toronto | State/Province: ON | Country: Canada | Attended To: 08-2009 |  
| Major Subject: Summer Student | Degree Earned: | Degree Date: | GPA: 3.85 | Scale: |  

| School Name 3 |  | CEEB: | Attended From: |  
| City: | State/Province: | Country: | Attended To: |  
| Major Subject: | Degree Earned: | Degree Date: | GPA: | Scale: |  

**Grade Point Average**

- Undergraduate cumulative GPA: 3.94  
- Out of a total possible 4.3  
- Undergraduate major GPA: 3.94  
- Out of a total possible 4.3
**Academic and other employment related to your proposed field of study:**

| Position | Employer or Institution | Nature of Work | Dates
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| Position | Employer or Institution | Nature of Work | Dates
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Academic honors, fellowships, scholarships, and other awards you have received:  
ELI Research Grant, CEAA Undergraduate Researcher of the Year

Publications and original work:

Other languages you have studied (indicate the number of years):
- french - 6 years

Names of any Cornell faculty members whom you have consulted about admission:  
Katheryn Caggiano

Other graduate schools to which you are applying:

---

**Unofficial Test Scores**

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</table>
Financial Support Application
Do you want to be considered for university fellowship and assistantships?  ☑ Yes  ☐ No
Do you want to be considered for university special diversity fellowships?  ☐ Yes  ☑ No
Are you applying through the Employee Degree Program?  ☑ Yes  ☑ No  ☑ Not a Cornell Employee

List sources of non-Cornell financial support (such as fellowship or corporate support) for the coming academic year that you have already been (or will be) awarded or for which you have applied:

Source 1: ____________________________ Amount in U.S. Dollars: ____________________________
Amount has been: ☐ Awarded  ☐ Applied for  Date of Award: ______ / ______

Source 2: ____________________________ Amount in U.S. Dollars: ____________________________
Amount has been: ☐ Awarded  ☐ Applied for  Date of Award: ______ / ______

Recommender Information Name and addresses of two or three persons who are acquainted with your academic work in your proposed field of study. Place check marks beside the names of those whom you have asked to write letters of recommendations:

Rec 1: Last: Reinhart-King First: Cynthia Email: cak57@cornell.edu
Address: 302 Weill Hall
City: Ithaca State/Province: New York Postal code: 14853 Submitted: ☑ Online  ☐ By Mail

Rec 2: Last: Walter First: Michael Email: mfw2@cornell.edu
Address: 218 Riley Robb
City: Ithaca State/Province: New York Postal code: 14850 Submitted: ☑ Online  ☐ By Mail

Rec 3: Last: ____________________________ First: ____________________________ Email: ____________________________
Address: ____________________________
City: ____________________________ State/Province: ______ Postal code: ______ Submitted: ☑ Online  ☐ By Mail
Statement of Purpose for Masters of Engineering in Operations Research – Lu Bai

I am applying to the Masters of Engineering degree program in Operations Research because I believe it would be a valuable complement my undergraduate degree in Biological Engineering and allow me to learn useful skills critical to success in business and industry. To spend the time, energy and financial resources to pursue a graduate degree like the MEng, the degree should allow advancement towards my ambitions and add value to my candidacy for jobs. I believe the MEng in Operations Research would be the most useful for me in terms of the skills learned, the exposure to a business mindset, and the ability better pursue my ambitions in consulting or creating a biomedical startup.

The core skills learned from a degree in operations research are those I can admire. The ability to understand statistics is a skill that will be useful no matter where I take my future career. In addition, it is great to say I have “analytic skills” from a degree in engineering but I feel it would be even more desirable to be able to actually work with a dataset and manipulate it in order to obtain information that is useful or not immediately intuitive. I would prefer to be considered for the Applied OR because of the broad nature of the option and I wish to have a good foundation in the important techniques before specializing. I feel this will also allow me to survey many aspects of the field to better make my transition from biological engineering to business.

The undergraduate degree in Biological Engineering is great for understanding the science behind natural and biological processes, but in order for this information to applied in real life and realized in a product to make an impact requires a different type of thinking. The project, case studies and engineering enterprise colloquium classes will offer exposure to precisely this kind of mindset. In discovering the enterprise colloquium after attending one session for one of my required classes, I found myself returning again and again for the opportunity to hear about the business and management, rather than the science, side of industry. I know it would be advantageous to meet and listen to more those individuals in order to better understand it myself.

In addition to the educational value, I see the MEng as an opportunity to meet an entirely different body of students from my undergraduate network, but still individuals with similar interests to my own. In researching about the OR MEng, I was able to meet a couple students who were also graduates of the BEE program Cornell and have already or are in the process of obtaining an MEng in OR. They all spoke to the value of the program on their careers and were very willing to relay their experiences. It would be great to meet more people, students or alumni, that are business minded and expand my network.

In conclusion, The OR MEng will allow me to make connections to those individuals who are accomplishing ventures I foresee in my future and allow me to gain skills and insights for the career I want to pursue.
### Transcript Information

**Name:** Cassandra Demosky

**School:** Cornell University

**Major:** Applied and Engineering Physics

**Term:** Fall 2009

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**Total Credit:** 16

**Grade Point Average:** 3.89
Academic History

Lu Bai

Registration History

2009 Summer-2009 Summer: Faculty of Arts and Science

Faculty of Arts and Science

2009 Summer - Non-Degree Visiting Student - Woodsworth College

Sessional GPA 3.85 Cumulative GPA 3.85

Status: Not assessed

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Credits Earned: 2.00
Ms. Lu Bai
2445 King Forrest Drive
Mississauga, Ontario L5K 2P1
CANADA

Dear Ms. Bai

On behalf of the Faculty of Operations Research at Cornell University, I am very pleased to recommend to the Dean of the Graduate School your admission to our Master of Engineering program beginning with the Fall 2012 semester. Official notification from the Cornell Graduate School about the required financial certification is attached. Since its inception over fifty years ago, our MEng program has maintained its tradition of excellence by preparing students for the professional world through a carefully crafted balance of fundamental theory and practical experience. Our MEng alumni number in the thousands and include a wide variety of outstanding professional citizens and scholars. We very much look forward to having you join our incoming class.

Final admission is contingent upon satisfactory completion of your baccalaureate program and all MEng prerequisite courses, with an academic record comparable to your performance to date. Receipt in this office of an official transcript certifying satisfactory completion will be required.

On your application, you indicated a preference for the Applied Operations Research concentration. We are happy to be able to honor your choice. Please note that all students in the Master of Engineering program are required to complete a team-based engineering design project. For your chosen concentration, you will be required to dedicate the two weeks immediately prior to the start of the spring semester to your MEng project. Please plan your holiday activities accordingly. For the 2012-13 academic year, spring semester classes start on January 21, 2013. This means that you should plan to be back in Ithaca no later than January 7, 2013, and possibly earlier (the exact date will be determined by your project team).
In recognition of your impressive credentials, we are pleased to offer you a fellowship within the School of Operations Research and Information Engineering for the 2012-2013 academic year. The fellowship award is for the amount of $5,000 and will be credited to your Cornell Bursar account as a partial tuition credit (one-half at the start of the Fall 2012 semester and one-half at the start of the Spring 2013 semester). This award, should you choose to accept it, is conditional upon your matriculating in the Master of Engineering program in Operations Research and Information Engineering in the Fall 2012 semester. Congratulations on the achievements that have made this award possible!

A place in our incoming class will be reserved for you until April 15, 2012. Please note that by accepting our offer of admission, you are acknowledging that you will adhere to Cornell University’s Code of Academic Integrity, which may be viewed at: http://cuinfo.cornell.edu/Academic/AIC.html.

To accept this offer of admission, please complete the enclosed Admissions Response Form and return it to this office by that date, along with a $1,400 deposit, your FRF form with financial certification (see attached), and a copy of your passport. The deposit is non-refundable. Once you register in the Master of Engineering program at Cornell, $1,000 will be credited to your bursar account. The remaining $400 covers your enrollment in MEng Connect, ORIE’s mandatory professional development program for MEng students. MEng Connect will begin on Tuesday, August 14, 2012, so you must arrange to arrive in Ithaca by then. In addition to returning the enclosed form, we ask that you also accept admission at: http://www.gradschool.cornell.edu/response.


If you have any questions about the program, please call Kathy King (1-607-255-9128, kmk23@cornell.edu) or me (1-607-255-2370, kec4@cornell.edu) and we will be glad to advise you. We hope to see you in our MEng class this fall!

Sincerely,

Kathryn E. Caggiano, PhD
Director, MEng Program

KEC: kk
Applicant name: Bai Lu

Proposed field and degree program:

Applicant DOB (for identification Purposes) 06-12-1990 Proposed Admit Term

In accordance with the Family Educational Rights and Privacy Act of 1974, the applicant can waive his/her right to inspect this recommendation. Should the applicant decide not to waive the right, he/she will have access to the recommendation only if he/she enrolls in the Graduate School at Cornell University.

☐ I hereby waive my right of access to the information* Lu Bai 11-30-2011
☐ I hereby DO NOT waive my right of access to the recommendation

Recommender: Please compare the applicant with one of the following
☐ Undergraduates from your institution who have gone on to graduate study
☒ Current senior undergraduates at your institution
☐ Other ________________________________

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Write candidly about the applicant. Indicate how long and in what capacity you have known the applicant. Discuss the applicant’s qualifications and potential to carry on advanced study in the field specified, as well as his or her promise of professional success. In describing such attributes as motivation, intellect, and maturity, discuss both strong and weak points. Specific examples are more useful than generalizations. Indicate rank in class, if known. If possible, compare the applicant with others you have recommended who have attended or are attending the Graduate School at Cornell University. If the applicant’s first language is not English, comment on his or her ability to read, write, speak and teach in English.

Recommender Signature Cynthia Reinhart-King Date 11-30-2011

Name Cynthia Reinhart-King Title Dr.

Email Address cak57@cornell.edu Telephone

Institution Name

Institution Address 302 Weill Hall
Ithaca, New York 14853
United States

*This recommendation will remain confidential during the admission process and will be used by The Graduate School in its procedures relative to admissions and fellowships. If the student waived the right of access to the recommendation, it will become accessible to the student only if he or she enrolls in The Graduate School.
To Whom It May Concern,

I am extremely pleased to write this letter on behalf of Lulu Bai. Lulu is currently an undergraduate research assistant in my lab in the Department of Biomedical Engineering at Cornell University. She has worked in my group for approximately a year and a half and she has made tremendous progress. In this time, she applied for and became a Rawlings Presidential Research Scholar and won the Cornell Engineering Alumni Association Award last year (given to only one undergrad in the college).

The overall goal of the research in my lab is to understand how the chemical and mechanical properties of the extracellular environment affect cell behavior. For instance, in a number of disease states including cancer, atherosclerosis and wound healing, tissues stiffen due to increased protein deposition. Our data (and data from others) indicates that increased stiffness can actually promote disease progression. As such, we have been studying how cells interpret the changes in the mechanical properties in their environment. The impact of such work is that if we understand how tissue stiffness affects cell behavior we can design tissue-engineered scaffolds that exploit these properties to drive a certain cell phenotype. Additionally, in the case of tissue stiffening in disease progression, if we understand how cells interpret mechanical cues then we can develop therapeutics to prevent negative cell responses.

Lulu’s specific project has been to understand how cells interpret simultaneous cues from the mechanics of the matrix and soluble growth factors present in the microenvironment. This research requires a multi-disciplinary approach using novel biomaterials and knowledge from biomechanics and cell biology to understand cell behavior. Lulu did a fantastic job of getting up to speed very quickly. She learned sterile technique and how to culture endothelial cells, how to use Image J to track cell movements, and how to make tunable biomaterial surfaces for cell adhesion in about 4 months. Most PhD students take a whole year to do this amount of work! Lulu has shown such independence that I started on her own independent project after only 6 months in the lab. This is the first time I have ever been able to do this with an
undergraduate at her career stage. It is remarkable.

It is worth noting as well that she has maintained a near perfect GPA while working in the lab---also remarkable for a Cornell ugrad!

On a personal note, Lulu is a joy to have in lab. She has a wonderful personality and has integrated very well with everyone. She is a real asset, personally and intellectually. I give Lulu my absolute highest recommendation to your program.

Best Regards,

Cynthia Reinhart-King
Assistant Professor
Department of Biomedical Engineering
Cornell University
Recommendation Form

Applicant name: Bai Lu

Proposed field and degree program:

Applicant DOB (for identification purposes) 06-12-1990 Proposed Admit Term __________________________

In accordance with the Family Educational Rights and Privacy Act of 1974, the applicant can waive his/her right to inspect this recommendation. Should the applicant decide not to waive the right, he/she will have access to the recommendation only if he/she enrolls in the Graduate School at Cornell University.

X I hereby waive my right of access to the information* Lu Bai 12-01-2011

☐ I hereby DO NOT waive my right of access to the recommendation

Recommender: Please compare the applicant with one of the following
☐ Undergraduates from your institution who have gone on to graduate study
☐ Current senior undergraduates at your institution
☐ Other __________________________

Top 2% Top 5% Top 10% Top 25% Top 50% Bottom 50%

Academic performance ☐ ☐ ☐ ☐ ☐ ☐
Intellectual potential ☒ ☐ ☐ ☐ ☐ ☐
Creativity and originality ☒ ☐ ☐ ☐ ☐ ☐
Motivation for graduate study ☒ ☐ ☐ ☐ ☐ ☐

Write candidly about the applicant. Indicate how long and in what capacity you have known the applicant. Discuss the applicant’s qualifications and potential to carry on advanced study in the field specified, as well as his or her promise of professional success. In describing such attributes as motivation, intellect, and maturity, discuss both strong and weak points. Specific examples are more useful than generalizations. Indicate rank in class, if known. If possible, compare the applicant with others you have recommended who have attended or are attending the Graduate School at Cornell University. If the applicant’s first language is not English, comment on his or her ability to read, write, speak and teach in English.

Recommender Signature Michael Walter Date 12-01-2011

Name Michael Walter Title Dr.

Email Address mfw2@cornell.edu Telephone 607-2553161

Institution Name Cornell University
Institution Address 218 Riley Robb
Ithaca, New York 14850
United States

*This recommendation will remain confidential during the admission process and will be used by The Graduate School in its procedures relative to admissions and fellowships. If the student waived the right of access to the recommendation, it will become accessible to the student only if he or she enrolls in The Graduate School.
December 1, 2011

To: Graduate Field for Operations Research

From: Michael F. Walter, Professor BEE

Re: Recommendation to MEng for Lulu Bai

I want to give my strongest recommendation for Lulu Bai to the Master of Engineering Program in Operations Research. I have served as Lulu’s advisor since she transferred from Art & Science to Engineering in 2009. Academically she is in the top one or two percent of her class with a GPA near 4.0. But just as impressive as her good grades are the quality and quantity of courses. She took 23 credits nearly every semester except for the fall term of her freshman year. In addition to the rigorous courses required for engineering she will have taken significant number of courses in both advanced biology and business. Her leadership skills seem to match her academic success by being both excellent and far reaching. For example, as an engineering student she is an executive member of the Cornell Undergraduate Society for Neuroscience while also an executive member of the Cornell Undergraduate Research Board. Ever since I have known, her Lulu has worked in Professor Cynthia Reinhart-King’s lab. She has won a number of research awards from Cornell, some of which relate directly to the work she has done with Professor Rinehart-King. In the past two summers she has had interesting experiences working at MIT on cognitive science and Harvard Medical School developing computer programs for EEG data analysis. Lulu’s goal is to complete her MEng in Operations Research and Industrial Engineering, and then moving into a position related to business and/or consulting for a few years before returning school to do an MBA. Her long term plans are to merge her interests in science and technology with those in business. Lulu is a very special person! She could easily enter a PhD program or go to medical school but what she wants to do is a MEng and I fully support her in that effort. I can’t imagine many students as well prepared as she is.

Respectfully,

Michael F. Walter