Information on Working With Me

Updated by Susan R. Hunter on Monday 20th August, 2018.

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1. Skills

The "day-to-day" of my current research involves

a. thinking up theorems and proving or disproving them,
b. creating new algorithms (often related to the theory in a.) and implementing them using C with MPI, Python, or MATLAB,
c. writing.

Ph.D. students who work with me must be willing to (undergraduates need only a subset of these):

- develop proficiency in theoretical aspects of probability, statistics, and optimization, and develop proficiency in writing proofs (often by taking classes in the mathematics department);
- develop proficiency in writing code for algorithm implementation;
- develop proficiency in writing text that tells a story (sentences, paragraphs, papers).

2. Current Undergraduate Students

If you have undergraduate-level proficiency in the skills outlined above, you have taken and liked IE 230, and you are interested in pursuing research, plan to take IE581 in Spring of your sophomore or junior year.

3. Current M.S. Thesis and Ph.D. Students

If you are currently a Purdue IE student, plan to take IE 581. Then we can discuss opportunities. (Most students should decide whether or not to work with me only after taking IE 581.) Plan ahead: ideally, you should have the knowledge-equivalent of STAT 516 before taking IE 581.

4. M.S. Thesis and Ph.D. Applicants

If you have read the above skill list and think we may be a good match for working together, please indicate why in the personal statement on your official application to the IE department. My research group is full in Fall 2018. However, I likely will have space for a Ph.D. student by Fall 2019.

Due to the high volume of mass emails requesting admission and/or discussion of the possibility of admission, such emails generally will not receive a reply. (**Admissions decisions are made by the graduate school and not by individual faculty members.**) I will be able to review your official materials after they have been released for faculty review in the review system.

That said, even if your email does not receive a reply, it may assist me in locating your record during applicant review. If you email me, use the subject "Applicant: Simulation Methodology." (This subject indicates you have read this document, and yours is not a mass email.) Include the following:

- your name as it will appear in the applicant database;
- a list of your degrees, school name, and year;
- a list of all proof-based mathematics classes you have taken, if any (e.g., real analysis);
- **if you do not have a degree in mathematics, statistics, or industrial engineering,** also include a list of all courses you have taken in probability, statistics, simulation, and optimization;
- a concise (250 words max) explanation of why you want to pursue a Ph.D. in Operations Research, and indicate why you think a thesis on Monte Carlo simulation methodology would be interesting;
- attach a CV in .pdf format (please keep it under 1MB).