Haoran Li

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Fifth year Ph.D. candidate working in algebra and combinatorics. Avid coder and problem solver, capable of heavy analytical and abstract reasoning as well as programming. Experienced in a few projects involving programming and mathematical reasoning. Seeking opportunities in software development, data analysis.

EDUCATION

Ph.D. in Mathematics, University of Maryland | College Park, MD | Aug 2018 - Jun 2023 | **GPA:** 4/4
- Aced in all classes(including PDE I&II).
- Awarded by dean's fellowship ($10,000).
- Two papers in preprint.

B.S. in Mathematics and Applied Mathematics, Sun Yat-sen university | Aug 2013 - Jun 2018 | **GPA:** 3.7/4
- Major in **software engineering** from Aug 2013 - Jun 2014, then switched major to Mathematics.
- Awarded by first Prize Scholarship (5%)(twice).
- The Scholarship of Canadian Alumni Association in Hong Kong(only one from the grade every year).

EXPERIENCE

Teaching Assistant & Course Instructor | Department of Mathematics, University of Maryland
College Park, MD | Aug 2018 – Present & Spring 2019, Summer 2022
- Organize and guide discussion sessions. Answer questions and give helpful feedback. Hold weekly office hours.
- Create syllabus and timetable as well as come up with homeworks, MATLAB projects and tests. Hold weekly office hours and review sessions. Typed lecture notes with illustrative graphings.

Research experience | Department of Mathematics, University of Maryland
College Park, MD | Aug 2018 – Present
- Collaborated on constructing an explicit computational model of the conjectural theory of integral motivic cohomology.
- Use Mathematica to carry out convoluted formal computations. Implemented a computational toolkit.

Data science bootcamp | The Erdős Institute
College Park, MD | Aug 2018 – Present
- Analyze and predict future purchases of instacart customers. Use python to implement PCA, XGBoost, and neural network methods.
- Divide tasks into subtasks for each team member (group of 3, latter 2). Communicate with team members timely and effectively.

Math modeling contest experience | Sun Yat-sen university
Guangzhou, China | Aug 2013 - Jun 2017
- Solve real-life problems with variational calculus and college physics.
- Implement C++ programs that could compute parameters and result pretty quickly.

Coding experience | Sun Yat-sen university
Guangzhou, China | Aug 2013 - Jun 2017
- Participate in several different on-campus ACM contests, winning various prizes each time.
  - Use basic algorithms and data structures to solve hard programming problems.
  - Many times in a team of three, brainstorm for ideas and debug diligently after careful implementation.
- Implemented minesweeper game in both C and java.

SKILLS

Programming: Proficient with C, C++, Python, Mathematica. Familiar with Java, MATLAB, SQL.

Productivity: Microsoft Word, Excel, LaTeX.

Language: English, Mandarin(native), Cantonese(basic)

Awards and honors

- Aziz Osborn Gold Medal in Teaching Excellence($500).
- First Prize in China Undergraduate Mathematical Contest in Modeling (CUMCM).
- Second Prize in China Undergraduate Mathematics Contest, Guangdong Province.
- First prize (9th place) in an Industrial Supported Programming Contest held on campus, China.