Abhijit Chowdhary

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Education

- **New York University** — New York, NY
  B.A. Joint Mathematics and Computer Science (In Major GPA: 3.596) — *Sep. 2016 - Present*
  - Intending to do B.A./M.A. program at NYU to complete in 2020. This is why I'm applying to Master's in progress required positions.
  - Relevant undergraduate courses: Algorithms, Numerical Computation, Computer System Organization, Operating Systems, Honors Analysis I/II, Honors Algebra I/II, Honors Linear Algebra, Honors Probability Theory, Topology.
  - Relevant graduate/PhD courses: Fundamental Algorithms, Numerical Methods I, Algebra, Partial Differential Equations, Geometric Modeling

- **University of Maryland** — College Park, MD
  Visiting Student (GPA: 3.925) — *Summer 2017-2018*
  - Coursework: Complex analysis, Number theory, Partial Differential Equations, Introduction to Artificial Intelligence.

Projects and Activities

- **First Robotics Team Member, Team 2849: Ursa Major** — Columbia, MD
  Hammond High School — *Sep. 2012 - Present*
  - A robotics team; every new year they gather for a challenge created by FIRST Robotics to build a robot in six weeks.
  - I worked as a build-team / programming-team flex member and team captain during my student years, and now I help as a programming and design mentor during their season.
  - Has managed to consistantly reach eliminantion and championship rounds at the regional level.
  - See their github here: https://github.com/teamursamajor

- **Tutor and TA at Courant** — New York, NY
  NYU — *Sep. 2017 - Present*
  - I work at a Tutor and TA to Professor Siegel at NYU for his undergraduate basic algorithms and graduate fundamental algorithms course.
  - I host tutoring sessions for students to come in and answer questions, and I help to build course materials.

- **Algebraic Point Set Surfaces Implementation**
  Geometric Modeling (Grad) — *Apr. 2018 - May. 2018*
  - For a class final project, I implemented the theory in the paper *Algebraic Point Set Surfaces* by Gaēl Gunnebaud and Markus Gross from ETH Zurich.
  - The Paper presented an alternative method to take a point cloud to a triangularized mesh, and another method to estimate normals from a point cloud using algebraic fitting of a sphere.
  - This was mostly a challenge in comprehension of the paper and implementation, notably fighting with Eigen to try and constuct and solve the sytems in an efficient manner.

- Heavy use of the libraries Eigen, libigl, and nanoflann. Written in C++.

- **ffpoly**
  Personal Project   *Dec. 2018 - Present*
  - After learning some algebraic number theory in my graduate algebra course, I decided to code an implementation of elements of the polynomial field $\mathbb{F}_n[x]$.
  - Still in the infancy stages of the project and learning some of the theory as I code.
  - Intention is to take it to the high performance computing course I'm taking Spring 2019 to optimize with parallel optimization.
  - You can see the project here: https://github.com/abhijit-c/ffpoly

- **Project Euler**
  Personal Hobby   *2016 - Present*
  - Participant in the Project Euler mathematical programming challenges.
  - Have solved 60 problems (Top 3.8% as of Jan 2019)

Skills

Programming Languages: C/C++, Java, Python, Matlab, Octave, Bash, LaTeX.

Languages: English, Latin, Broken Hindi

Operating Systems: Linux (Arch Linux laptop, Debian desktop)

Minor Mechanical Fabrication Skills

Miscellaneous: strong verbal and written communication skills, excellent troubleshooting and debugging skills, exceptional problem solving skills, good teams skills

Interests

Academic: Numerical Methods and Algorithms, Algebraic Number Theory, Computational Group Theory, High Performance Computing.

Computers: Have built and maintained my PC since 2012, and have modded my thinkpad X230 with various screen and hardware upgrades. Fulltime Linux enthusiast since 2012.

Membership: Student member of ACM and in the EBoard of the ACM Chapter of NYU.

Sports: Devoted Ravens (National Football League) fan.

Other: Have been semi-successfully getting into cooking.