

Parker J. Rule

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Education

- 2019–2023 **Bachelor of Arts, Mathematics and Computer Science**, Tufts University, 4.0.
Pursuing advanced coursework with an emphasis on scientific computing, computational geometry, and operations research. Relevant courses: Algorithms; Computational Geometry; Computation Theory; Topics on Algorithms, Graphs, and Data Structures (advanced elective); Geometric Folding Algorithms (graduate course at MIT); Machine Structure and Assembly-Language Programming; Data Structures; Real Analysis I; Abstract Algebra I; Complex Variables; Mathematical Modeling.

Experience

- 2019– **Research Assistant/Software Engineer**, Metric Geometry and Gerrymandering Group (MGGG), Tufts University and MIT.
Involved in several research and software development projects focused on statistical analysis of political redistricting, with a focus on building fast parallelized software to accelerate analysis workflows. Created optimized Julia implementations of Markov chain Monte Carlo algorithms for sampling districting plans, improving performance by orders of magnitude over preexisting tooling.
- 2019 **Summer Fellow**, *Voting Rights Data Institute*, MGGG, Tufts University and MIT.
Worked with a diverse team of undergraduate students, graduate students, and faculty on research in congressional redistricting, voting rights, and the U.S. Census. Contributed expertise in Python and geospatial data to several research teams; rapidly built software tools to enable novel analyses. Co-author of a research paper submitted for publication.
- 2018–2019 **Technical Intern (Text Analytics)**, *Bose Corporation*, Framingham, MA.
Key role in the design and implementation of a centralized system for ingestion, aggregation, and analysis of voice of the customer data with company-wide applications. Experience developing scalable Python-based microservices, architecting and deploying cloud infrastructure on AWS using Terraform, and collaborating in a corporate environment with GitHub. Practical experience with the PyData stack (JupyterLab, NumPy, pandas, scikit-learn) for natural language processing. Regular presentations of technical progress to business stakeholders.

Publications

Projects

Volunteer Work

- 2015–2019 **Founder**, *Tech Help @ 19 Carter*, Berlin, MA.
Founded a program that offers technical support to community members, with donations benefiting a local community center. Trained assistants and passed on duties upon graduation.

Awards

- 2018 **Fellow**, *AI Grant*.
Earned a highly competitive grant valued at over \$40,000 in cash and compute credits for a research project on computational redistricting.
- 2018 **AP National Scholar**.
- 2018 **National Merit Finalist**.
- 2015 **Member**, *Julian C. Stanley Study of Exceptional Talent*, Johns Hopkins University.