Darren Hamilton

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EDUCATION

Stony Brook University   Stony Brook, NY
Bachelor of Science in Computer Science, 3.86 GPA   *Expected May 2027*

EXPERIENCE

Software Engineering Fellow   July 2024 – Present
Headstarter AI   *Remote*
- Built and deployed 5 projects over 7 weeks, presenting each project and implementing criticism and feedback
- Took weekly mock interviews, identifying and resolving weaknesses in algorithmic problem solving
- Collaborated with 2 team members to develop and deploy a final project, presenting to Headstarter staff

Undergraduate Research Assistant   June 2024 – Present
Stony Brook University   *Stony Brook, NY*
- Worked on a collaborative research project to analyze and improve supercomputer network topologies
- Leveraged NetworkX to generate graphs and perform graph computations, visualizing with Matplot.lib
- Attended weekly meetings with my research group, presenting results and implementing feedback

Vertically Integrated Projects Team Member   Jan. 2024 – Present
Stony Brook University   *Stony Brook, NY*
- Focused on optimization for the Secure Distributed Computation and Learning Networks team
- Wrote reading reports on distributed and standard subgradient optimization in LaTeX
- Created a Python program to compare the performance of three subgradient optimization algorithms

Mathematics Teaching Assistant   Jan. 2024 – May 2024
Stony Brook University   *Stony Brook, NY*
- Served as an undergraduate teaching assistant for Linear Algebra
- Offered office hours and facilitated understanding of course material through thoroughly explaining concepts
- Collaborated and communicated with the professor to efficiently grade homework, exams, and proctor exams

PROJECTS

Personal Website | *Next.js, Node.js, Express*   Jan. 2024 – Jan. 2024
- Created a personal website to display projects and showcase web development skills
- Utilized the SendMail API with Node.js and Express to implement automatic email sending message form
- Used TypeScript to display my resume and React to implement user interactivity

Distributed Subgradient Simulation | *Python*   April 2024 – May 2024
- Implemented a convex optimization research paper for my Vertically Integrated Projects team
- Compared algorithm performance in minimizing a global cost function
- Used Matplot.lib to visualize the algorithms and NumPy to implement the gradient and cost functions
- Ranked the most efficient algorithms for optimization, presenting to my project leader

ReadArXiV | *Next.js, Node.js, Firebase*   July 2024 – July 2024
- Created a web app to serve as a platform to read, save, and find ArXiV research papers
- Used the ArXiV RESTful API to access research papers and populate search results with React
- Utilized Firebase to implement user authentication and store user-saved research papers

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, HTML/CSS
Frameworks: React, Next.js, Node.js, Express, Tailwind
Developer Tools: Git, Firebase
Libraries: NumPy, NetworkX, Matplotlib