Paul Adutwum

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Education

Bates College   **Expected Graduation: May 2027**
Major: B.sc Mathematics and Computer Science   *Lewiston,Maine*
- Dana Scholar — **GPA: 3.95**
- **Relevant Coursework:** Data Structures and Algorithms, Intro. to Software Developement, Intro. to Web Development, Intro. to Data Analysis and Visualization, Linear Algebra, Multivariable Calculus, Differential Equations

Work Experience

Department of Mathematics, Bates College   **May 2024 – August 2024**
Research Assistant   *Lewiston, Maine*
- Engineered a computational method using Java to scale-up computation of **large scale** Ulam Sequences,optimizing performance by 60% through efficient algorithm design.
- Sucessfully generated up to **1 billion** terms of Ulam Sequences with time complexity $O(n)$. Preprint of findings available on arXiv:2410.01217

Department of Computer Science, Bates College   **September 2024 – Present**
Teaching Assistant   *Lewiston, Maine*
- Organize one-on-one and group tutoring sessions to support students in mastering foundational programming concepts and software development principles using Python.
- Assist the professor with course delivery by designing comprehensive study materials, preparing detailed practice problems, providing one-on-one support to clarify complex topics during office hours, and grading students' homework.

IT Help Desk, Bates College   **May 2024 – Present**
Student Supervisor   *Lewiston, Maine*
- Manage day-to-day help desk operations, including task delegation, scheduling, troubleshooting technical issues, and ensuring adequate coverage during peak periods to maintain seamless IT support services.
- Train new student employees on IT procedures, customer service best practices, and troubleshooting methodologies.

Projects

Bobcat Express Website | Front-End | *Website*| *Source Code*   **HTML | CSS | JavaScript**
- Developed and deployed a responsive front-end web application to enhance the transportation experience for **1,000+ Bates College students**
- Maintained a scalable modular CSS architecture to support future back-end integration with frameworks such as **Django, Flask, or Node.js**

Library Management Application | Full-stack | *Website* |*Source Code*   **Python | SQLite | HTML**
- **Developed a dynamic** library management web application with features for adding, borrowing,searching, and deleting books using HTML,CSS, and Javascript
- Integrated efficient data handling and storage via SQLite for backend functionality

Predictive Energy Management System | Source Code   **Pandas | Scikit-Learn | Python**
- Developed a predictive model for energy consumption across Bates College dorms, leveraging a simulated dataset spanning five years. Utilized **pandas, numpy** and **scikit-learn** for data processing and machine learning.

Leadership

Coordinator, Bates Coding Club   **September 2023 – Present**
- Led a team of 20 members to organize weekly coding workshops, increasing attendance by 40% in one semester.
- Organized and led monthly volunteer events, engaging over 100 students to contribute 500+ hours to local nonprofits.

Organizer, Physics and Astronomy Club, Bates College   **September 2023 – Present**
- Organized and facilitated stargazing events and telescope orientations, providing hands-on guidance to over 100 students in understanding celestial observations and fostering a deeper appreciation for astronomy.
- Led educational sessions on astronomical phenomena, integrating interactive demonstrations and cutting-edge tools to enhance student engagement and inspire interest in astrophysics.

Technical Skills

Languages: Python, Java, SQL, C++ HTML5, CSS, JavaScript,

Developer Tools: AWS, Git

Libraries/Frameworks ReactJS, NodeJS, PostgreSQL, NextJS, Django