CAROLINE JAREB

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CAREER OBJECTIVE

Highly motivated software developer with excellent problem solving and communication skills from a variety of technical, mathematical, and creative experiences. Seeking full time employment to help create solutions for the greater good.

EDUCATION

University of Virginia, College of Arts and Sciences, Charlottesville, VA   *Expected May 2025*
Bachelor of Arts in Mathematics and Computer Science
- Relevant Coursework: Data Structures and Algorithms 1 and 2, Computer Systems and Organization 1 and 2, Cybersecurity Ordinary Differential Equations, Intro to Probability, Basic Real Analysis, Survey of Algebra, Introduction to Geometry
- GPA: 3.615 / 4.0
- Semester Abroad DIS Copenhagen - Courses in Game Development and Artificial Intelligence   *Fall 2023*

EXPERIENCE

Data Visualization Intern, **Biocomplexity Institute at UVA,** Charlottesville, VA   *August 2024 – Present*
- Mentor: Samarth Swarup
- Utilized UVA's Rivanna High Performance Computing System and PostgreSQL to extract and visualize geospatial and weather data from large synthetic population datasets to create choropleth maps in Python and Plotly
- Analyze and predict temperature and flooding health effects with and without activity modeling

Computing for Global Challenges Intern, **Biocomplexity Institute at UVA,** Charlottesville, VA   *June 2024 – August 2024*
- Mentors: Mandy Wilson, Henning Mortveit
- Studied the effects of disease spread through modeling and developing tools in Python (Pandas, MatPlotLib) and JavaScript (D3) to visualize massive networks of simulated epidemic transmission networks

Teaching Assistant, **University of Virginia,** Charlottesville, VA   *January 2023 – May 2024*
- Assisted Prof. Elizabeth Orrico with CS 2120 – Discrete Mathematics and Theory
- Wrote and graded weekly assignments on set theory, proof writing, logic, relations, etc.
- Held office hours and guided students through proofs and to a deeper understanding of discrete mathematics

Lighting Production Assistant, **University of Virginia,** Charlottesville, VA   *January 2024 – Present*
- Learned aspects of theatrical lighting hands-on: parts and functions of instruments, programming cues, and design
- Cabled and hung lights and read light plots with 100+ instruments for 3 of UVA Drama's theater spaces
- Carefully followed safety protocols and communicated frequently with coworkers

Producer, **First Year Players (FYP),** Charlottesville, VA   *November 2023 – Present*
- Acted as primary representative of FYP (official University organization) and oversaw Production, Technical, and Artistic Staff
- Coordinated all aspects of FYP to produce a full length musical per semester and maintain the organization's vision through scheduling and leading meetings, budgeting, collecting feedback, and implementing relevant changes

RELEVANT COURSEWORK

Game Development – *DIS Copenhagen*   *Fall 2023*
- Created 2D and 3D games in teams of three in Unity to learn fundamentals of video game design
- Employed singleton design principles, interfaces, abstract classes, UI, and more advanced coding strategies
- Met game developers in Copenhagen, Aarhus, Berlin, and Frankfurt to learn about the gaming industry

Artificial Intelligence – *DIS Copenhagen*   *Fall 2023*
- Applied fundamental computing algorithms to an agent search environment in a semester-long group project with presentations
- Developed heuristic algorithms and analyzed data from BFS, DFS, greedy, and A* searches

Software Development Essentials – *CS 3130*   *Spring 2023*
- Completed weekly group Java programming assignments using git and Test Driven Development (TDD)
- Implemented Wordle game with working GUI, populated a dictionary with legal words, and did white and black box testing
- Learned SQL to create course registration project with students, courses, and course reviews stored in database

SKILLS

- Proficient in *Python, Java, JavaScript, C, C#*
- Data and Data Visualization tools *Pandas, MatPlotLib, D3, SQL, PostgreSQL, R*
- Microsoft Office Suite and Google Workspace
- Experience with social media and Video Editing