

CAROLINE JAREB

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EDUCATION

University of Virginia, College of Arts and Sciences, Charlottesville, VA

Expected May 2025

Bachelor of Arts in Mathematics and Computer Science

- Relevant Coursework: Ordinary Differential Equations, Intro to Probability, Basic Real Analysis, Survey of Algebra, Geometry, Data Structures and Algorithms 1 and 2, Computer Systems and Organization 1 and 2, Cybersecurity
- 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

June 2024 – Present

- Built tools in Python (Pandas, Plotly) and Javascript to visualize massive networks of simulated epidemic transmission networks in the Summer 2024 Computing for Global Challenges program with Mandy Wilson and Henning Mortveit
- Extracted and visualized geospatial and temperature data from large synthetic population datasets, creating choropleth maps to analyze weather health effects and to compare home temperatures and temperatures using activity modeling with Samarth Swarup

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

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

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

Assistant Producer, **First Year Players**, Charlottesville, VA

December 2022 – May 2023

- Scheduled and reserved rooms for 100+ rehearsals and meetings and kept track of conflicts and cancellations
- Emailed important announcements to 200+ members of FYP weekly

Lighting Apprentice, **Live Arts**, Charlottesville, VA

December 2022 – March 2023

- Assisted Lighting Designer in programming the light board, hanging and focusing lights, and contributing to design ideas
- Operated light board and monitored that lights were working properly for 3 weeks of play performances

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