**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: 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 ***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; Mentors: Mandy Wilson and Henning Mortveit
* Extracted and visualized geospatial and weather data from large synthetic population datasets to create choropleth maps and analyze temperature and flooding health effects with and without activity modeling: Mentor: 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

*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

*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