Joshua Paup

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Education

University of Colorado - Boulder Boulder, CO
Bachelor of Arts in Computer Science and Mathematics *August 2017 – May 2021*

Work Experience

The Internet Rules Lab Boulder, CO
Undergraduate Research Assistant *March 2021 – Present*

- Currently working as an undergraduate research assistant under the supervision of Dr. Casey Fiesler working on research related to AI ethics education.
- *AI Ethics Education* - Researching strategies for implementing AI ethics into introductory computing curriculum, analyzing existing ethical topics in introductory computing syllabi, and designing assignments to consider and apply ethical topics/thinking.

Laboratory for Atmospheric and Space Physics Boulder, CO
Undergraduate Software Engineer *April 2020 – Present*

- Currently assigned to the web development team as an undergraduate software engineer (front-end development emphasis) with assignments to several 'space weather' portals that host a collection of space weather and solar irradiance datasets for research scientists.
- Use HTML, CSS/Sass, JavaScript, and TypeScript on the Angular framework to develop web pages and build data visualization tools.
- Experience working with several REST APIs to extract a variety of planetary atmospheric, space plasma, and space weather datasets.
- Participate in Agile and Scrum work methodology with daily stand-ups, bi-weekly sprints, and tools like Jira and Confluence to track work progress.

University of Colorado - Boulder Boulder, CO
Professional Research Associate *April 2020 – August 2020*

- Worked with a research team that developed a set of visualization search tools to identify relationships between North Atlantic archaeology, climate science, paleontology, and literature datasets.
- Used Tableau to create initial visualization prototypes between unbalanced datasets.
- Used JavaScript (D3.js) to create network visualizations and interact with a REST API to extract datasets.
- Wrote queries in MySQL to produce reports related to shared similarities between datasets.
- Produced Jupyter Notebooks (Python) containing final visualization search tool prototypes to assist research scientists in discovering research overlap with other scientists.

Skills and Relevant Coursework

Languages: Python (Intermediate), C/C++ (Intermediate), JavaScript (Intermediate), TypeScript (Beginner)
Database: MySQL, PostgreSQL, MongoDB, Cassandra
Workflow: BitBucket, GitHub, Jira, Confluence
Tools and Technologies: HTML, CSS/SCSS/Sass, D3.js, Node.js, Angular 8+, Figma Prototyping, Tableau, Jupyter Notebook, Linux, Windows, MacOS, Microsoft Office Suite, LaTeX
Coursework: Data Structures, Algorithms, Database Systems, Information Visualization, Data Mining, Software Methods and Tools, Human-Computer Interactions, Artificial Intelligence, Natural Language Processing, Coding & Cryptography, Probability Theory, Mathematical Statistics, Numerical Analysis, Operations Research
Work Areas: Software Engineering, Front-End Development, UI/UX Research & Design, Data Visualizations, AI Ethics, AI Ethics Education, Data Analytics, Data Science

University Involvement

CU Bee Club ***(Co-Founder, Vice President for Administration)***: Co-founded a conservation group with a focus on the education and awareness of local pollinators and bees at the University of Colorado - Boulder.
CU Math Club ***(President)***: Served as president of CU Math Club. Worked to host biweekly social hours for all mathematics affiliates and assisted club advisors with scheduling/planning guest lectures.