David Riva

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Education

Colorado State University — Fort Collins, CO
Bachelor of Science in Computer Science — *Graduated May 2024*
Minor in Mathematics
GPA 4.0
Graduated Summa Cum Laude & Dean's List recipient Fall 2021 - Spring 2024

Experience

Research Assistant - Full-stack Developer — December 2022 – January 2024
Colorado State University — *Fort Collins, CO.*

- Developer on the Urban Sustain Project which creates an accessible interface to datasets consisting of 20TB or greater, catering to a variety of social and environmental researchers and professionals
- Built geospatial data visualizations using React JavaScript & TypeScript, HTML, and CSS for the frontend, complemented by Python, Flask, & MongoDB for backend development
- Won the Excellence in Data Science Award from CSU's Celebrating Undergraduate Research Competition
- Managed source control, met deadlines, and attended weekly Scrum meetings in collaboration with a team of 12 individuals
- Designed visualization components, including interactive charts, and a map interface, enabling intuitive data exploration across multiple datasets

Data Science Intern — May 2023 – August 2023
Hewlett Packard Inc. — *Vancouver, WA.*

- Developed & maintained three ETL data pipelines, extracting data from AWS S3 buckets, transforming it, and loading it into the AWS RedShift cloud data warehouse for long-term storage
- Developed expertise in data transformation, filtering, and verification using SQL & Python within a relational database
- Applied machine learning modeling and forecasting techniques with Scikit-Learn & Facebook Prophet, along with data visualization using Matplotlib & Seaborn
- Developed RESTful APIs & wrappers

Teaching Assistant — August 2022 – December 2022
Colorado State University — *Fort Collins, CO.*

- Instructed and supervised the lab sessions for CS-165 Data Structures & Algorithms, demonstrating effective leadership and teaching abilities to a group of 30 students
- Conveyed complex, technical concepts in a clear and accessible way
- Personalized problem solving during individualized office hours & managed course curriculum

Projects

Nature Nomads - eCommerce Platform
https://github.com/davidjriva/Nature-Nomads

- Developed a fully functional e-commerce platform for booking guided nature tours
- Implemented front-end using JavaScript, HTML, CSS, and Pug for dynamic and responsive user interfaces
- Built back-end with Node.js, Express.js, Mongoose, and MongoDB
- Integrated Stripe for secure payment processing, allowing users to purchase tours seamlessly
- Conducted end-to-end unit testing with Jest and SuperTest to ensure platform reliability
- Set up CI/CD pipelines with Github Actions for automated testing and deployment

Using Dijkstra's Shortest Paths to Route Packets in a Network Overlay
https://github.com/davidjriva/Distributed-Systems-Projects/tree/main/hw1

- Designed and implemented a distributed network of N nodes capable of routing packets based on Dijkstra's shortest path algorithm in a simulated network topology
- Implemented communication between nodes using the TCP/IP model, facilitating packet exchange through a custom marshalling and demarshalling system
- Optimized performance by introducing multi-threading for parallel message sending and receiving within each node in the system

Technical Skills

Languages: Java, JavaScript, TypeScript, Python, C/C++, SQL, Bash, HTML, CSS
Frameworks: React, Node.js, Express.js, Mongoose, Hadoop, Apache Spark, PySpark
Testing: JUnit, Jacoco, Mockito, Postman
Developer Tools: MongoDB, Git, TensorFlow, Keras, Databricks, DBeaver, Pip, Cargo, NPM, Redshift, Amazon S3 Buckets, Zenhub, VS Code, PyCharm, IntelliJ
Libraries: Pandas, NumPy, Scikit-learn, Matplotlib