Vinayak Gajjewar

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RESEARCH STATEMENT

I am interested in the intersection of IoT, distributed systems, and scalable spatial analytics. Specifically, I want to bring geospatial and spatio-temporal applications to resource-constrained computing environments in a scalable and fault-tolerant manner.

EDUCATION

Bachelor of Science, Computer Science
University of California, Riverside, *Graduated June 2023*
Concentration: Computer Science

SKILLS

Unix/Linux, Python, Django, C, C++, Docker, Git, Java, Scala, Maven, Spark, Hadoop, Node.js, JavaScript, TypeScript, MongoDB

PUBLICATIONS

Singla, Samriddhi, Ayan Mukhopadhyay, Michael Wilbur, Tina Diao, Vinayak Gajjewar, Ahmed Eldawy, Mykel Kochenderfer, Ross Shachter, and Abhishek Dubey. "Wildfiredb: An open-source dataset connecting wildfire occurrence with relevant determinants." In NeurIPS Thirty-fifth Annual Conference on Neural Information Processing Systems. 2021.

EXPERIENCE

Software Products Intern   Summer 2024
Esri Inc., Redlands, CA
- Used TypeScript, CloudFormation, and Electron to develop an application for deploying ArcGIS Enterprise to AWS.

Undergraduate Researcher   Summer 2023
UC Riverside Big-Data Lab, Riverside, CA
- Contributed to the development of Raptor, a Raster + Vector query processing engine written in Java and Spark for manipulating and visualizing geospatial data.

Software Products Intern   Summer 2022
Esri Inc., Redlands, CA
- Used Node.js to write a framework for connecting remote data sources (e.g., databases, APIs) to the Esri software ecosystem.
- Wrote technical documentation and code samples for new features of ArcGIS Enterprise.

Research Fellow   May 2021 - May 2022
Digital Agriculture Fellowship, Riverside, CA
- Used Maven and Apache Spark to build a scalable analytics system that uses satellite data to compute wildfire spread, resulting in a 2 order of magnitude performance increase over the state of the art.

Instructor   Summer 2020
iD Tech Camps, Santa Clara, CA

- Tutored 50+ K-5 children on various topics in computer science, from basic programming concepts to video game development.

Computer Science Intern   Summer 2018
SchoolCity Inc., Santa Clara, CA
- Developed a data analytics application that extrapolates patterns in School-City product usage across school districts using MongoDB and Express.js.

TALKS 2023 — Implementing a Distributed Evapotranspiration Model. (2023). 2023 UCR Undergraduate Research & Creative Activities Symposium. Riverside, CA.
2021 — Increasing the Efficiency of Geospatial Data Processing. (2021). Research in Science & Engineering Symposium. Riverside, CA.

AWARDS & HONORS 2023 — ASA, CSSA, SSSA Outstanding Senior (19 seniors recognized nationally)
2021 — Digital Agriculture Fellowship (Artifical Intelligence for Sustainable Agriculture)

SELECTED PRESS Ober, Holly. (December 8, 2021.) Wildfire dataset could help firefighters save lives and property. UCR News Archive. https://news.ucr.edu/articles/2021/12/08/wildfire-dataset-could-help-firefighters-save-lives-and-property