Shaurya Pathak

Cerritos, CA · shauryapathak24@gmail.com · shauryapathak.xyz · 562-330-8614

Education

University of California, Riverside Riverside, CA
BS Computer Science with Business Application *GPA: 3.83 (Major GPA:4.0)* Sep 2021 - Dec 2024
Student Assistant for Hamed Mohsenian-Rad
Relevant Coursework: Data Structures and Algorithms (C++), Machine Learning, Artificial Intelligence, Database Management, Discrete Math

Professional Experience

NASA | City of Los Angeles Los Angeles, CA
Student Researcher September 2021 - Present

- Utilized satellite data to estimate PM2.5 levels in Los Angeles, achieving an impressive Root Mean Square Error (RMSE) of 1.6, showcasing accurate predictive capabilities.
- Integrated a machine learning model to automate air pollution predictions, enabling public accessibility through a website.
- Created a comprehensive live traffic count modeling system by combining static traffic count data with real-time traffic flow information.

Skills Developed: *Data Analysis/Modeling, Machine Learning Implementation, Website Integration*
Tools Used: *Python, Keras, Convolutional Neural Networks, ArcGIS, Tensorflow, Scikit, MatPlotLib, AWS (Sagemaker, EC2, Lambda), CesiumJS* **Tools Used:** *Python, GCP (Compute, Cloud Storage), Restful API*

Klear.ai Cypress, CA
Front End Development Intern June 2021 - September 2021

- Developed and maintained single-page applications using Angular, AngularJS, and related technologies.
- Collaborated with designers, product managers, and stakeholders to gather requirements and deliver high-quality applications, integrating back-end functionality through RESTful APIs.
- Engaged in the integration of front-end components with relational databases, enhancing application efficiency and user experience by ensuring smooth data retrieval and management.

Skills Developed: *Front-end Development, Cross-functional Collaboration, API Integration*
Tools Used: *Angular, TypeScript, HTML, Github, RESTful API, Relational Databases*

Skills

Programming Languages:	Python, Swift, JavaScript / TypeScript, HTML/CSS, C++, Git
Technology:	Artificial Intelligence, AWS, Google Cloud Platform, Front End Web Development

Projects

Chess Bot (chess.shauryapathak.xyz) *Python, Machine Learning Algorithms*

- Employed hyperparameter tuning (regularization, nodes) to align chess engine performance with human gameplay, enhancing AI's strategic decision-making.
- Designed a machine learning model to analyze human chess strategies, utilizing optimization mathematics for dynamic adjustment of gameplay level.

Los Angeles Digital Twin (ai-aq.com/airmobilitymap3D) *Geospatial Application Development, CesiumJS, Javascript, ArcGIS*

- Created a 3D Application for visualization of various Geospatial Data Sources as well as Live Air Mobility Data
- Configured backend system to take live predictions from machine learning model to be displayed on a website for stakeholders.

AirQuality Estimation *Machine Learning, Python, Tensorflow, Pytorch*

- Utilized Satellite and auxilary data sources in order to estimate air pollution using ConvLSTM Networks
- Achieved an 86% Accurancy with the ability to predict trends for at risk individuals

Awards

Featured in NASA ESTO 2023 Report NASA Earth Science Technology Office
Recognized for outstanding contributions and research in the creation of a digital twin of Los Angeles to simulate the results of increase usage of air taxis. Selected to be highlighted in the annual Earth Science Technology Office report. August 2023

UCRPC Winner University of California, Riverside
Winner at UCR Programming Competition, recognized for excellency in applications of Data Structures and Algorithms. October 2023