Alec Resha

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Summary

Adaptable, autodidactic, and dependable recent graduate from CSU: Sacramento with a B.S. in Computer Science and a minor in Mathematics with plans of pursuing a MS in a related field. Heavy interest in Data Science and Machine learning with multiple courses and projects in both. Proficient in MS Office Suite/Google Workspace Apps, Python, Julia, R, MySQL, Java, C/C++, Linux, and Docker with experience learning new ones quickly. Experience with multiple AWS Services, Kubernetes, Databases, Data Mining, Data Analytics, ETL, NLP, Intelligent Systems, and Data Visualization.

Education

California State University, Sacramento

B.S. in Computer Science • Sacramento, CA   05/2022

- Minor in Mathematics
- Dean's Honor List Spring 2020 - May 2022
- 3.3+ GPA
- Prominent coursework:

Intelligent Systems, Number Theory, Numerical Analysis, Big Data, Calculus 3, Differential Equations, Linear Algebra, Cryptography, Web Programming, Data Analytics and Mining, Database Management Systems, Data Structures and Algorithm Analysis, Computational Methods and Applications

Skills

Python, Mathematics, Data Analytics, Big Data, Linux, Organizational Skills, Machine Learning, Docker

Projects

- **Senior Project: Non-Invasive Real-Time Traffic Intersection State Collection and Transmission**
  - Identifying and classifying stoplights from video feed in near real time (100ms intervals)
  - Transformed multiple separate datasets and trained object detection ML model
  - Evaluated accuracy and val loss for model, trained different ML model sizes and algorithms for comparison
  - Created data pipeline to interpret output of ML model for sending to backend database
- **Personal Project: Portfolio Website**
  - Website written from scratch to act as ongoing portfolio, along with displaying projects, resume, contact information, and more about me
  - Self-hosted on a raspberry pi using docker and nginx
  - Highlights: HTML, CSS, Javascript, Docker/Docker-Compose
  - [Web view of portfolio](https://finestnothing.github.io/) (https://finestnothing.github.io/)
  - [Github repo of website](https://github.com/finestnothing/finestnothing.github.io) (https://github.com/finestnothing/finestnothing.github.io)
  - [Self-hosted website link](http://finestnothing.com/) (http://finestnothing.com/)
- **Work Project: Course Create Automation for US Composting Council**
  - Tasked with getting 160 courses uploaded into LMS which involves making courses on two separate websites
  - Created well-documented script using python and selenium to automate to make sure everything is filled out correctly and fill courses out faster

- Extensively tested to ensure that fields are filled out correctly with minimal human-input (completing captcha's)
- **Personal Project: Kubernetes Cluster**
  - Created Kubernetes cluster with 4 raspberry pi's, one acting as a controller with three nodes
  - Hosting multiple programs on cluster, including VS Code server, gitea, plex, and others
- **Big Data Project: California Wildfire Trend Analysis**
  - Used a database of all California fires from 1950 through 2018
  - Analyze data to establish trends and changes over time
  - Displayed summary data such as the average increase over time and plotting for future prediction
  - Discussed multiple statistically significant trends based on the data
- **Intelligent Systems Project: Using AI to predict Business Review Ratings on Yelp**
  - Trim data to useful categories, apply NLP to text of reviews
  - Use a Fully Connected Neural Network with the text and business category as inputs and rating as output
  - Use a train/test split to evaluate effectiveness of model
- **Intelligent Systems Project: Solving N-Queens Problem Using Genetic Algorithm**
  - Used a DEAP toolbox to make genetic algorithm to solve N-Queens problem
  - Varied mutation rates, epochs, and population to find effective combinations with results stored in hall of fame

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Experience

US Composting Council

Database Assistant • Remote   02/2022 - Present

- Collaborate with CEO and Education Director to finalize details for LMS courses
- Automated new course creation with Python and Selenium
- Meet with LMS representatives to discuss platform capabilities, bugs, and troubleshooting

Airx Utility Surveyors, Inc.

Project Manager • Rancho Cordova, CA   09/2021 - Present

- Manage team for projects to ensure everything is completed on time
- Put together and send quality deliverables to client
- Work with clients regarding changes and questions on projects
- Direct staff to priority projects to meet deadlines without losing sight of longer term projects
- Overhauled quality control department from the bottom up to eliminate severe pre-existing shortcomings
- Put together spreadsheets for tracking submissions from the field as well as missed deliverables from previous quality control staff
- Revamped organization system to prevent missing deliverables

Mathnasium

Center Director • Cameron Park, CA   04/2017 - 12/2020

- Hire, onboard and train new employees, including instructing on working with students and center responsibilities
- Talk to prospective clients about the program
- Manage weekly scheduling of students, including making a semi-automatic scheduling system in google sheets, gmail, and google apps script