

# Alec Resha

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## Summary

Adaptable, autodidactic, dependable, and self managing student enrolled in CSU: Sacramento pursuing a B.S. in Computer Science with a minor in Mathematics and multiple data-science related courses already completed. Planning to pursue a M.S. in Computer Science or Data Science. Manages numerous projects in a professional setting with experience managing and participating in multiple STEM focused projects with fellow students. Proficient in MS Office Suite/Google Workspace Apps, Python, Julia, R, MySQL, Java, C/C++, and Linux with experience learning new ones quickly. Experience with multiple AWS Services, Databases, Data Mining, Data Analytics, ETL, NLP, Intelligent Systems, and Data Visualization.

## Education

### California State University, Sacramento

Computer Science • Sacramento, CA

05/2022

- Minor in Mathematics completed Spring 2021
- Dean's Honor List Spring 2020 - Present
- 3.3+ CSUS 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 |

## Projects

- **Senior Project: Non-Invasive Real-Time Traffic Intersection State Collection and Transmission**
  - In charge of identifying and classifying stoplights from video feed with reasonably high accuracy
  - Data must be collected and transmitted in near real-time (~100ms)
  - Transform training data to work with AI model training
  - Ensure it can run on low-cost devices (such as Raspberry Pi's)
- **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: Classifying Network Connections**
  - Remove null value rows, normalize column data, encode text data
  - Train Fully Connected Neural Networks and Convolutional Neural Networks to classify each connection as an attack or not
  - Expanded on project to classify what kind of attack each connection was
- **Intelligent Systems Project: CIFAR-10 Image Classification**
  - Varied layers of Convolutional Neural Network model to classify images
  - Use transfer learning from VGG16 model to compare effectiveness of self-trained 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
- **Software Engineering Project: Alternative Transportation Options Website for University Transportations and Parking Services**
  - In charge of project management and HTML/CSS coding
  - Collect information from visitors in a survey then use Google Maps API and a custom algorithm for ranking different transportation options to give ranked recommendations
  - Designed to encourage public transportation, ride sharing, walking, or biking when feasible

## Experience

### US Composting Council

Database Assistant • Remote

02/2022 - Present

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

### 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