Steven Robert Berdak

SOFTWARE ENGINEER

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PROFESSIONAL OVERVIEW

Software Engineer with a B.S. in Computer Science and experience developing, testing, and deploying software applications. Strong foundation in programming fundamentals, data structures, and software engineering best practices using Python and JavaScript, with experience in full-stack development, databases, cloud platforms, and Agile workflows. Exposure to machine learning concepts, including building and evaluating neural network models.

WORK EXPERIENCE

California State University | Turlock CA, Student Researcher, Software Engineer
June 2024 - Sept 2025

- Programmed a neural network to separate signal from background on CERN ATLAS data.
- Implemented feature selection for enhancing neural network training data, increasing performance.
- Developed and tuned AI training pipeline in Python using Keras, NumPy, Scikit-learn.
- Created visualization outputs to evaluate performance of the neural network.

eTrademark | Remote, Full-stack Software Engineer
Dec 2020 - May 2023

- Built and deployed a full-stack React application for trademark processing on AWS (EC2, S3).
- Designed and administered MongoDB and PostgreSQL databases and object storage.
- Developed a custom database to cache USPTO trademark data improving query performance and resolution.
- Implemented a secure admin dashboard for managing trademark submissions and site content.

MCSquared Health | Remote CA, Full-stack Software Engineer
July 2019 - Aug 2020

- Helped raise over $100,000 in seed funding
- Built a full-stack web application in React hosted on Heroku.
- Ensured customer data was handled and stored in accordance with HIPAA standards.
- Provided Scrum-based development support with weekly client check-ins and deliverables.

EDUCATION

CSU Stanislaus | Turlock CA | Bachelor of Science in Computer Science | Class of 2025
Modesto Junior College | Modesto CA | Associate Degree for Transfer in Computer Science | Class of 2023

TECHNICAL SKILLS

Python	PostgreSQL	Keras	Windows	React
JavaScript	MongoDB	AWS Suite	Linux	HTML
Java	Amazon S3	Firebase Suite	Android	CSS
GitHub	Asana	Google Suite	UI Layout	UI Design

ADDITIONAL WORK EXPERIENCE

ChemQuip | Hayward CA, Hazmat Delivery Driver
Nov 2015 - Apr 2017

- Deliver pool-related chemicals to the greater bay area.
- Ensured professional service and that clients' needs are met.

AWARDS

Dean's List | Dec 2023 - Dec 2025 | Awarded for maintaining a 3.5 GPA while attending CSU Stanislaus.
President's List | Jan 2023 | Completing 12 units in a semester with a minimum 3.5 GPA.
California Community Colleges Finish Line Scholarship | Jul 2024 | Awarded for academic performance.
SEM - Certificate of Achievement Award | Apr 2023 | Awarded in recognition of achievements at MJC.

PROJECTS

Keras Neural Network Pipeline | Turlock CA, Software Engineering
Fall 2024 - Fall 2025

- Designed an end-to-end neural network pipeline including data preprocessing, model creation, hyperparameter tuning, and evaluation.
- Developed a data extraction pipeline converting CERN ROOT files to Apache Parquet for efficient Python-based analysis.
- Implemented robust univariate and multivariate feature selection methods with statistical power scoring and visualization.
- Integrated Keras models with scikit-learn for cross-validation and benchmarking.

Independent Study in Neural Networks and Robotics | Turlock CA, Software/Robotic Engineering
Fall 2025

- Implemented ROS2 environment to fuse spatial sensor data with object predictions.
- Developed occupancy-grid tooling to determine object positions based on robot position and orientation.
- Implemented midpoint circle algorithm to filter specific cells for evaluation.
- Implemented logic for handling distance calculation of both non-linearized weighted Euclidean distance and radial basis functions.
- Implemented socket-based convolutional neural network server for generating object predictions.

NASA Lunar Challenge | Turlock CA, Lead Developer, Team Leader
Spring 2025

- Implemented custom Carla-based NASA simulation environment on a computer system.
- Created docker container configuration for custom source-code adhering to competition rules.
- Submitted docker containers for scoring.
- Brainstormed and implemented code to autonomously control robots on the lunar surface.
- Implemented Ultralytics convolutional neural network trained on rock database from Kaggle.