Jermy Cardenas

cardenas.jermyy@gmail.com | linkedin.com/in/jermy-cardenas | github.com/jer03

Education

University of New Mexico — Albuquerque, New Mexico
Computer Science — *Expected Graduation: December 2025*

- **Coursework:** Data Structure & Algorithms, Database Management, Machine Learning, Big Data, Software Engineering, Design of Large Programs in Java, Computer Architecture & Organization in C, Probability & Statistics, Calculus III

Professional Experience

University of New Mexico — Albuquerque, New Mexico
Tutor — *March 2024 – Present*

- Provided one-on-one and group academic support to students in Linear Algebra, Calculus I - Calculus III, Chemistry & Physics I, enhancing understanding and boosting confidence
- Developed customized lesson plans and learning strategies tailored to individual student
- Assisted students with homework, test preparation, and skill-building to improve performance and comprehension
- Communicated progress and challenges effectively with advisors, contributing to collaborative student success

Projects

HunTrackR — Job Tracker | *React, Vite, Express, PostgreSQL, Docker, AWS EC2, AWS RDS, AWS S3*

- Developed a full-stack SaaS-style job tracker application that allows users to manage job applications and track progress across stages
- Built secure, JWT-protected RESTful APIs with role-based access control using Express and PostgreSQL
- Deployed frontend to AWS S3 and backend to Dockerized EC2, managing environment configs and production builds
- Migrated from Dockerized PostgreSQL to AWS RDS, ensuring production-safe, scalable, and durable data storage
- Integrated AWS security groups, EC2 SSH access, and inbound port management to secure cloud infrastructure

Scrabble Game with Best Moving Opponent | *Java, JavaFX*

- Designed and developed a Scrabble game using Java and JavaFX for an interactive and visually engaging user interface
- Enhanced game complexity by incorporating a dictionary-based word solver and best-move algorithms for AI decision-making

AlohaTrip — Itinerary Planner | *React, Express, Firebase, Google Places API, Google Routes API, Tailwind CSS*

- Designed and implemented a scalable, full-stack itinerary planning pipeline, automating multi-day travel plans in Hawai'i based on location, budget, and user preferences
- Implemented Firebase Authentication to manage secure sign-up, login, and user session persistence
- Integrated Google Places API to fetch high-rated tourist attractions with metadata like hours, ratings, and categories
- Utilized Google Routes API to calculate driving distance, duration, and optimize location-based recommendations

Reinforcement Learning for Motion Planning | *Python, NumPy, SciPy, PIL*

- Implemented a grid-based pathfinding simulation using Q-learning, implementing custom environment logic, reward signals, and agent behavior from scratch.
- Built a modular Q-learning system with state/action management, exploration strategies, and evaluation routines to measure success rate and efficiency.
- Tuned system performance across learning rates, discount factors, and training durations, achieving **100%** goal success with optimal parameters.

Skills & Technical Tools

Languages: Python, SQL, Java, JavaScript, C, Haskell
Web Technologies: HTML, CSS, React.js, Tailwind CSS, REST APIs
Technologies: Node.js, MongoDB, Firebase, PostgreSQL, MySQL, SQLite, AWS
Developer Tools: Git, VS code, EclipseIDE, Figma, Linux, Docker

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