

# Jermy Cardenas

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## EDUCATION

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### University of New Mexico

Computer Science

Albuquerque, New Mexico

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

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### University of New Mexico

Tutor

Albuquerque, New Mexico

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

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### 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

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**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