

Oscar Manuel Arenas

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Education

M.S. in Computer Science, California State University, Long Beach
B.S. in Computer Science, California State University, Long Beach

Expected: May 2026
May 2024

Experience

Data Infrastructure & Analysis Intern (*JavaScript, Google APIs*)
Willow Co., Ltd.

Seoul, South Korea
Dec 2025 – Jan 2026

- Designed and implemented a production Sales CRM web application
- Built a Kanban-based lead management system backed by Google Sheets and supporting multi-user workflows
- Integrated Google Gmail, Calendar, and Drive APIs for email tracking, scheduling, and document linking
- Developed analytics dashboards with KPIs and interactive charts to visualize pipeline value, win rates, and sales performance

Machine Learning Graduate Researcher (*Java, Python*)

Data Semantics and Human Data Interaction (D²) Lab, CSULB

Long Beach, California
August 2025 – Present

- Applying machine learning to classify pilot performance based on eye-gaze data
- Analyzed eye-tracking data from flight simulation studies to measure pilot attention and visual scanning patterns using fixation, saccade, pupil, and blink metrics
- Applied statistical methods (means, medians, standard deviations) to compare descriptive gaze measures across pilot sessions
- Built data-cleaning protocols with range checks, outlier detection, and missing-value handling to ensure data integrity

AI Research Intern (*AutoGen, Python*)

USC Institute for Creative Technologies

Los Angeles, California
May 2025 – August 2025

- Designed a workflow to analyze 3rd to 12th grade English science text datasets to evaluate LLMs such as ChatGPT-4o, Gemini, and locally hosted Hugging Face models on Spanish translations performance using Spanish readability metrics
- Developed Python scripts to evaluate untargeted vs. grade-targeted Spanish translations, and implemented a Microsoft AutoGen multi-agent prompt retry system that improved grade-level alignment accuracy by up to 60%
- Documented workflows and statistical analysis processes so researchers could trace, reproduce, and extend experiments

Data Science Intern (*HTML, CSS, Python, JavaScript*)

National Nuclear Security Administration

Remote
May 2024 – April 2025

- Interned at the NNSA Defense Nuclear Nonproliferation R&D office supporting the Data Science portfolio
- Created an ontology focused on Trustworthy, Effective, and Deployable AI (TED-AI) using Python to better characterize current focus areas, opportunities, and potential gaps for DNN R&D
- Developed a modular VS Code extension with drag-and-drop dataset uploads and D3.js visualizations, enabling non-technical users to explore ontology data

Personal Projects

Golf Course Segmentation (*Python, TensorFlow*)

Oct 2025

- Trained and fine-tuned a custom U-Net model for multi-class aerial image segmentation of golf course features
- Implemented end-to-end preprocessing, training, evaluation, and inference workflow

Daily Vending Machine Sales Forecasting (*Python, TensorFlow, Pandas*)

Spring 2025

- Analyzed time-series sales data from vending machines to identify daily and weekly purchasing trends
- Evaluated model performance using RMSE, MAE, and MAPE metrics to assess forecast reliability

AI-Agents Pong Game (*Python, Typescript, Flask*)

Mar-Apr 2024

- Built a VS Code WebView Pong game with both paddles autonomously controlled by AutoGen agents.
- Wrote Playwright tests for launch, gameplay, and scoring to ensure functionality.

Skills

Programming: Python | JavaScript | Java | R | SQL | Typescript

Coursework: Machine Learning | SWE | Algorithms

Tools: Git | Azure (AI Foundry) | Figma | Claude Code | Docker

Libraries: PyTorch | TensorFlow | NumPy | Pandas

Scholarships

- James D. Woolever CIS Scholarship | Nega Family Scholarship for Students in Technology
- STEAM Scholarship Award (Neudesic) | Internship Essay Contest Winner (2024, CSULB)