Nevin Manimaran

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# Education

**University of Pennsylvania**

Master of Science in Artificial Intelligence 2026

**University of California, Santa Barbara**

Bachelor of Science in Computer Science, Minor in Statistical Science GPA: 3.53 June 2025

# Skills

**Languages**: Java, Python, C/C++, SQL (Postgres), JavaScript, R, PowerBI, SAS

**AWS Skills**: SageMaker Studio, Data Wrangler, Glue, Athena, Lambda, S3, MLOps, Data Lake

**Developer Tools**: Git, MatLab, Google Colab, VS Code, Jupyter Notebook, PyCharm, Eclipse

**Libraries**: Pandas, NumPy, Matplotlib, Scikit, PyTorch, TensorFlow, Spark

**Certificates/Awards**: AWS Certified Cloud Practitioner, Eagle Scout

# Work Experience

**Data and ML Engineer Intern • Capital Insurance Group** June 2023 – Sept 2023

* Built a classification model to categorize clients into risk assessment groups using XgbClassifier
* Utilized SageMaker Data Wrangler and employed Principal Component Analysis to reduce the high number of variables in the dataset
* Optimized ML model performance through hyperparameter tuning using SageMaker's built-in optimization capabilities, significantly improving model accuracy and efficiency
* Assisted in setting up data ingestion pipelines using AWS Glue ETL jobs, contributing to data lake population and initial transformations
* Designed and refined complex SQL queries in Amazon Athena to efficiently analyze large-scale datasets stored in AWS Glue tables, enabling data-driven insights and supporting machine learning model development.

**Data Analyst • InfoWeaver** June 2019 - Sept 2019

* Designed informative dashboards using Pivot tables in Excel for easy data filtering in reports
* Automated expenses tracking with Excel macros and leveraging data validation tools to streamline workflows

# Projects/Coursework

**Hackathon** *| Real-Time Predictive Maintenance for Robots* Feb 2025

* Developed a real-time web application to monitor UR3 robot performance and detect potential grip failures.
* Engineered and trained an LSTM neural network to analyze continuous sensor data and predict failures.
* Integrated the ML model into a user-friendly interface, enabling live failure predictions during robot operation.

**Hackathon** *| Vocab Browser Extension* Feb 2025

* Developed a browser extension that performs sentiment and readability analysis on websites, allowing users to highlight difficult words for personalized vocabulary quizzes.

**GymFlow** *| Python, Xcode, Swift* Sept 2024 – Oct 2025

* Built a mobile application to provide students real-time gym activity data and personalized fitness recommendations.
* Implemented a forecast feature using SARIMA, accounting for seasonal spikes in gym activity
* Leveraged computer vision techniques, including edge detection, to enable barcode scanning functionality for student ID cards.
* Developed an AI-powered agent to deliver personalized workout and nutritional guidance based on gym equipment and available dining hall meals.

**CS190I: Deep Learning** *| PyTorch, Sci-kit Learn, Numpy, Pandas* Sept 2024 – Dec 2025

* Used polynomials kernel functions to map non-linearly separable data onto higher dimensions allowing for linear classifiers to be used.
* Developed a CNN-based image classification model to detect and categorize distracted driving behaviors with high accuracy
* Implemented Recurrent Neural Networks with Pytorch to generate text sequences from Shakespeare.
* Created a neural network to classify the sentiment of text excerpts.