Michael Baluja
Machine Learning and Data Science

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Education

M.S. in Electrical Engineering
University of California San Diego (September 2021 – March 2023)
Focus: Machine Learning and Data Science

B.S. in Cognitive Science
University of California San Diego (June 2019 – June 2021)
Specialization: Machine Learning and Neural Computation

Experience

Data Scientist Intern
Experian (June 2022 – September 2022)
- Analyze and refactor existing development code to deliver up to 92.6% speed increase.
- Assemble Python package for statistical analysis across six metrics for measuring disparate impact.
- Integrate explainable machine learning algorithms to ensure fairness across model predictions.

Data Assistant
University of California San Diego (June 2021 – June 2022)
- Create ETL pipeline to manage 125k research object records across eight research APIs.
- Maintain and debug open-source user interface for big data collection via supported repositories.
- Collaborate within data curation team to integrate user feedback into application development.

Research Assistant
University of California San Diego (January 2020 – June 2021)
- Improve deep reinforcement learning framework to design error protection weight masks for text classification networks trained on two different classification tasks for multiple data sets.
- Increase model performance by up to 300% in the presence of simulated weight errors.
- Communicate experimental results in papers, posters, and presentations for Great Minds in STEM and LSAMP undergraduate conferences.

Technical Skills
- Programming: Python, C++, SQL , MongoDB
- Machine Learning: scikit-learn, PyTorch
- Data Analysis: Pandas, Selenium, Numpy, Scipy
- Computing: Linux/Bash, Docker, git

Projects

Autonomous Vehicle (September 2022 – December 2022)
- Program NVIDIA Jetson Nano for controlling vehicle via neural network with real-time camera input.
- Integrate popular computer vision frameworks to pilot autonomous vehicle around track obstances.
- Utilize OpenCV for real-time traffic detection and speed limit/stop sign recognition.

PyCurator (June 2021 – Present)
- Develop data pipeline and API queries via Object-Oriented multiple inheritance approach.
- Design and publish user interface to allow streamlined access to eight online research repositories.
- Implement best practices to ensure computational simplicity, reducing runtime by up to 72%.