Anthony Marinov

Los Angeles - San Diego | (818) 517-5053| anthonymmarinov@gmail.com | anthonymarinov.com

EXPERIENCE

***MiTek* | R&D Engineer Intern** *June 2024 - Sept 2024*

- Developed an AI generative design program using Python, XGBoost, and Tensorflow along with a cost/time estimation tool in Excel for optimized lateral system design in wood light-frame construction.
- Assembled a full file package with detailed documentation for internal company distribution and for further testing, development, and software integration.
- Led the creation of a new, non-traditional design philosophy for MiTek's lateral solutions capable of decreasing lateral system construction time by up to 20% with negligible cost increase.

***Alpha MM Inc.* | Software Engineer** *June 2023 - Sept 2023*

- Created a machine learning pricing and expense model using Tensorflow in Python for more efficient client quoting and accurate project expense estimates, increasing average project margins by 7%.
- Developed a Python program to handle project scheduling, match sub-contractors to projects, and generate client invoices and necessary project agreement documents.

EDUCATION

BS, Structural Engineering | University of California, San Diego | **GPA: 3.857 / 4.000** *June 2025*

MS, Structural Engineering/Computer Science | University of California, San Diego | **GPA: *In Progress*** *June 2026*

SKILLS

Computer Science

Languages: Java, Python, C, SQL, MATLAB, HTML/CSS, VBA

Tech: Machine Learning, Data Structures, Object Oriented Programming, Git

Libraries: Keras/Tensorflow, XGBoost, PyTorch, Sklearn, Pandas, Matplotlib, Seaborn

Engineering

Design/Analysis: Finite Element Analysis, Product Design, Composites, Steel, Reinforced Concrete, Timber

Tech: Sensors & Data Acquisition, Signal Processing & Spectral Analysis, Structural Health Monitoring

Programs: Solidworks, LabVIEW, SAP 2000, RISA, Abaqus, AutoCAD, Revit, MS Office

PROJECTS

Handwritten Digit Recognition | (Python, Keras/Tensorflow, Matplotlib, NumPy) github-link

- Developed a CNN model using Keras to classify handwritten digits with high accuracy on the MNIST dataset.
- Trained the model on 60,000 images, achieving robust accuracy performance on the test dataset, and generated predictive analysis on new samples.

Soil-Water Retention ML Model | (Python, Keras/Tensorflow, Sklearn, Matplotlib)

- Created a non-isothermal soil-water retention model in a geotechnical engineering context using multiple machine learning approaches (ridge regression, KNN, RNN w/ custom loss functions).
- Generalized model to varying temperature conditions, unlike traditional isothermal models.
- Non-parametric machine learning models were able to capture the complex and highly non-linear soil-water behaviors much better than traditionally used parametric models.

Design-Build Competition | (Solidworks, AutoCAD) github-link

- Designed and built an extending arm mechanism that delivers a ball to suspended scoring platforms, utilizing 3D printing, laser cutting, and servomotors.
- Placed 1st out of 46 teams: only team to use a unique mechanism type, surpassing 2nd place by 73%.