Anthony Marinov

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- Harnessing Machine Learning and AI to revolutionize engineering efficiency and capability -

EDUCATION

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

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

SKILLS

- **Design/Analysis:** Steel | Reinforced Concrete | Timber | FEA | Machine Learning | Data Analysis
- **Tech:** Sensors & Data Acquisition | Signal Processing & Spectral Analysis | Structural Health Monitoring
- **Programs:** SAP 2000 | RISA | Solidworks | Abaqus | AutoCAD | Revit | MS Office
- **Languages:** Java | Python | MATLAB | HTML/CSS | Microsoft VBA
- **Libraries:** Keras/Tensorflow | XGBoost | Scikit-Learn

EXPERIENCE

***MiTek* | Structural 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.* | Project Manager** *June 2023 - Sept 2023*

- Developed a data-driven pricing model built into Excel for easy client quoting and invoice creation.
- Worked with clients to schedule projects, negotiate necessary logistics, and create project agreements.
- Streamlined company timelines and expenses, increasing margins by 7%.

***UC San Diego Competitive Sports* | Intramural Soccer Referee** *Jan 2024 - June 2024*

- Refereed two seasons of competitive intramural soccer, including multiple first division finals games.
- Collected, recorded, and communicated game data with department supervisors.

PROJECTS

Soil-Water Retention Machine Learning Model | (Python, Keras/Tensorflow, Scikit-learn, 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 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)

- 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%.