

# 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: 3.86/4.00**

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 1<sup>st</sup> out of 46 teams: only team to use a unique mechanism type, surpassing 2<sup>nd</sup> place by 73%.