# Anthony Marinov

(818) 517-5053 | anthony@anthonymarinov.com | anthonymarinov.com

## EDUCATION

**Master of Science in Structural Engineering (Computer Science & Technology)** | University of California, San Diego          June 2026
**Bachelor of Science in Structural Engineering** | University of California, San Diego | **GPA: 3.86/4.00**          June 2025

## SKILLS

- **Languages:** Java | Python | JavaScript | C | SQL | MATLAB | HTML/CSS | VBA
- **Technologies:** Git | Docker | MySQL | Transformers | Amazon Web Services (AWS)
- **Framework & Libraries:** Django | React.js | Node.js | Jenkins | Tensorflow | PyTorch | XGBoost | Pandas
- **Programs:** Abaqus | Solidworks | SAP 2000 | RISA | LabVIEW | AutoCAD | Revit | Excel
- **Hardware:** Sensors | Data Acquisition | Signal Processing | Spectral Analysis | Structural Health Monitoring
- **Engineering:** Finite Element Analysis (FEA) | Product Design | Composites | Steel | Concrete | Timber

## EXPERIENCE

**MiTek | R&D Engineer Intern**          June 2024 - Sept. 2024
- Led the creation of an AI generative design program using Python, XGBoost, and TensorFlow, alongside a cost and time estimation tool in Excel, to optimize lateral system design for wood light-frame construction
- Collaborated with cross-functional teams to establish a new design philosophy for MiTek's lateral solutions, reducing construction time by up to 20% with minimal cost impact through data-driven insights from the program
- Created a comprehensive documentation package for internal distribution and delivered a tutorial presentation to global team leadership, detailing the program's features, usage, and potential for further development

**Alpha MM Inc | Software Engineer Intern**          June 2023 - June 2024
- Developed a custom full-stack CRM application using Python, Django, and MySQL to manage client information, project scheduling, invoicing, and financial tracking
- Established an efficient CI/CD pipeline with Jenkins and Docker, automating unit testing and deployment to AWS for streamlined integration and delivery
- Designed a machine learning pricing and expense model using TensorFlow in Python, improving client quoting accuracy and project expense estimation, which increased project margins by 7% on average

## PROJECTS

**Custom Generative Pretrained Transformer (GPT)** | *(Python, PyTorch)*          anthonymarinov/custom-gpt
- Developed a custom implementation of the Transformer architecture based on the GPT-2 framework and the "Attention is All You Need" paper to generate Shakespearean-style text
- Built the model from scratch in PyTorch, implementing core components like multi-head self-attention, positional encoding, and layer normalization to handle long-range context
- Optimized training with residual connections, dropout, and manual attention mechanisms to enhance performance and minimize overfitting

**GPT-2 Based Chatbot** | *(Python, Flask, React.js, Node.js)*          anthonymarinov/chatbot-gpt2
- Built a full-stack chatbot application with a React.js frontend for user interaction and a Flask backend powered by GPT-2 to generate conversational responses
- Integrated cross-origin communication using Flask-CORS, enabling seamless interaction between the frontend and backend

**Soil-Water Retention ML Model** | *(Python, Keras/Tensorflow, Sklearn, Matplotlib)*          anthonymarinov/soil-water-retention
- Developed non-isothermal machine learning models to predict soil saturation based on matric suction and user-specified temperatures, extending capabilities beyond traditional isothermal models
- Optimized model performance using cross-validation and custom loss functions, ensuring accurate predictions across varying geotechnical conditions