

# AYDIN TABATABAI

☎ (714) 488-7090 ✉ [aydin.tabai@gmail.com](mailto:aydin.tabai@gmail.com) 🌐 [aydintabai.com](http://aydintabai.com) 🔗 [linkedin.com/in/aydintabai](https://linkedin.com/in/aydintabai) 🐙 [github.com/aydintabai](https://github.com/aydintabai)

## EDUCATION

### University of California, San Diego

La Jolla, CA

*B.S. in Cognitive Science, Specializing in Machine Learning*

*Jun. 2025*

*Minors: Computer Science, General Biology*

*GPA: 3.72*

- Relevant Coursework: Data Structures & Algorithms, Supervised/Unsupervised Learning, Neural Networks & Deep Learning, Reinforcement Learning, Large Language Models, Systems Programming

## EXPERIENCE

### Founding Software Engineer

Jul. 2025 – Present

*HowDoIFill*

*Remote*

- Built the MVP of a mobile-first AI PDF editor, enabling users to scan, identify, and fill forms seamlessly via OCR and intelligent field detection.
- Integrated multi-modal AI pipelines to auto-extract data from documents, support conversational form filling, and generate structured field mappings.
- Developed scalable backend services enabling secure document handling, real-time interactions, and reliable export and distribution workflows.
- Co-led product and engineering strategy, collaborating with cofounders to deliver user-focused features and reliable infrastructure.

### Machine Learning/AI Engineer

Jan. 2025 – Jul. 2025

*Soaper*

*Remote*

- Designed and implemented an end-to-end AI-powered physician response system, reducing message response time and processing daily patient interactions with pre-generated, context-aware suggestions.
- Developed a LoRA fine-tuning pipeline leveraging physician responses and feedback, continuously improving the model's accuracy and contextual relevance in response generation.
- Ensured HIPAA-compliant handling of patient data by implementing secure data pipelines, role-based access controls, and thorough test coverage to maintain reliability and privacy.
- Built an end-to-end clinical search tool for physicians to easily query across patient notes, labs, and imaging, improving the speed and accuracy of chart review.

## PROJECTS

### Volleyball RL | Python, PyTorch, Gymnasium

- Designed, trained, and evaluated reinforcement learning volleyball agents using PPO, A2C, DQN, and CEM in a custom Gym environment to evaluate the effects of algorithmic choices on performance.
- Evaluated agents over 1000+ episodes using metrics like average reward and win rate, with PPO achieving an 80% win rate against a strong baseline.
- Analyzed how the algorithms learn and adapt to different rewards, exploration strategies, and opponent behaviors in dynamic multi-agent environments.

### Deep Learning Model Evaluation | Python, PyTorch, Matplotlib

- Developed and benchmarked 7 convolutional neural network models, including custom CNNs, ResNet18 variants, and VGG11, to explore the effects of architectural and training choices.
- Investigated the impact of model depth, activation functions (ReLU, LeakyReLU), optimizers (Adam, SGD), batch normalization, and dropout.
- Evaluated model performance using training loss, test accuracy, and training time, while visualizing learning behavior and trends with Matplotlib.

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, SQL (Postgres), JavaScript/TypeScript, Swift, Bash

**Libraries/Frameworks:** PyTorch, TensorFlow, Scikit-learn, FastAPI, React, Tailwind CSS, SwiftUI

**Tools/Technologies:** Git, GitHub, Google Cloud, Azure, REST API