Phoenix Toan Pham

phoenixpham@berkeley.edu | 949-836-7032

Undergraduate | Computer Science & Applied Mathematics

www.linkedin.com/in/phoenix-pham

Berkeley, CA | Irvine, CA

EDUCATION

University of California, Berkeley   August 2022 – May 2026

· Computer Science, B.A.   · Applied Mathematics, B.A.   · 3.72 GPA

EXPERIENCE

Neural Systems & Machine Learning Research Affiliate | Lawrence Berkeley National Lab | Berkeley, CA   August 2025 -

- Applying **Dynamical Components Analysis (DCA)** and **Compressed Predictive Information Coding (CPIC)** algorithms to neural recordings and natural video/audio data to understand their temporal/spatial structure.
- **Developing** the CPIC codebase into a modular, **open-source library** for accessibility and scalability for computational neuroscience research. This work will contribute to anticipated RFA from NSF/DoE/NIH and DOD.

Data Science Intern | IDXExchange | Meridian, ID   May - August 2025

- Developed an **ML system** to predict residential property closing prices using California MLS data, including data cleaning, feature engineering, and training regression models (e.g. **Random Forest, Extreme Gradient Boosting**).
- Evaluated model performance using R^2 and error metrics, and represent key findings to stakeholders.

Software Backend Engineer | Stealth beauty-tech startup "StylistGem"   May - August 2025

- Built the core **FastAPI** service for a Booksy-style booking platform, designing secure CRUD routes for technician and customer profiles with **Pydantic** validation and **JWT** authentication.

Machine Learning Engineering Intern | Mentia | San Francisco, CA   January - September 2024

- Assist people living with dementia through ML models via an interactive game to predict actions/engagement.
- **Extracted**, **cleaned**, **classified**, and validated **2000+ video data** in **Vertex AI** to create training dataset, using metrics (e.g. **Fleiss' kappa**) to measure data consistency using labeling guidelines I constructed.
- Evaluated ML models with **CNN-RNN** architecture, using **TensorFlow**/**Keras** and **pandas** on training set.

RELEVANT PROJECTS

CS 180: Computer Vision and Computational Photography | UC Berkeley

Project: Neural Radiance Fields (NeRFs)

- Implemented a full **NeRF** pipeline in **PyTorch from scratch**, calibrating cameras with **OpenCV** ArUco and optimizing a volumetric MLP for 3D scene reconstruction and novel-view rendering.

CS 189: Introduction to Machine Learning | UC Berkeley

Project: Intuition Behind a Convolutional Neural Network

- Built a **CNN from scratch** using only **numpy** functions, implementing core components including **convolutional**, **linear**, and **activation layers** to classify the Iris dataset.
- Used **PyTorch** to **train CNNs** on Fashion MNIST. Applied **transfer learning** to **fine-tune** a pre-trained model for CIFAR-10 classification.

DATA 100: Principles & Techniques of Data Science | UC Berkeley

Project: Exploring & Predicting Housing Prices in Cook County

- Built **OLS regression models** to predict fair market housing prices and identify system overassessment of low-value homes. Applied **data cleaning**, **feature engineering** & **selection** to improve model accuracy.

TECHNICAL SKILLS

- Python, TensorFlow, PyTorch, Java, C, SQL, scikit-learn   - EDA, Research Analysis, Technical Writing
- Linear Algebra, Multivariable/Vector Calculus, Probability - Critical Thinking, Complex Problem Solving