# Michael Pham

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## Education

- **University of California, Berkeley** — Berkeley, CA
  *B.A. in Computer Science and Mathematics* — *Aug 2022 – Present*
  *Minor in Data Science*
  - GPA: 3.865
  - Member of Upsilon Pi Epsilon Honor Society
  - Member of EECS Honors Program
  - Dean's List, Honors to Date

## Professional Experience

- **Self-Employed** — West Sacramento, CA
  *Calculus Tutor* — *June 2025 – Present*
  - Private tutor for Calculus I and II.
  - Created lessons tailored to individual students' needs, reinforcing key concepts to them.

## Projects

- **Machine Learning** | Python, PyTorch
  - Used PyTorch on a variety of machine learning problems. Approximated a sinusoidal curve. Additionally, implemented language detection and handwriting recognition.
  - Utilized a two-layer Recurrent Neural Network for language recognition of words of differing lengths. Achieved an accuracy of over 80%.
  - Implemented a two-layer Linear Neural Network with ReLU activation function and Cross-Entropy Loss for handwriting recognition. Filtered the data using convolution, and then flattened it to enhance model performance. Achieved an accuracy of over 98%.
- **Reinforcement Learning** | Python, PyTorch
  - Utilized Reinforcement Learning to train Pac-Man agent to win. Achieved a win rate of over 90%.
  - Implemented value iteration, Q-Learning, Approximate Q-Leaning, and Deep Q-Learning using PyTorch.
  - Used Multi-Layered Linear Neural Network with ReLU activation and Mean Square Error Loss in Deep Q-Learning. Fine-tuned hyperparameters such as learning rate, hidden layer sizes, and number of training episodes.
- **Spam Classifier** | Python, Matplotlib, NumPy, Pandas, RegEx, scikit-learn, Seaborn
  - Created a spam email filter using a Logistic Regression model. Achieved an accuracy of 99.2% on given test data.
  - Cleaned and visualized data using Pandas, RegEx, Matplotlib, and Seaborn.
  - Fine-tuned hyperparameters by cross-validation with GridSearchCV.

## Relevant Coursework

- **Computer Science**: Data Structures, Discrete Mathematics, Efficient Algorithms and Intractable Problems, Introduction to Artificial Intelligence, Introduction to Machine Learning, Optimization Models in Engineering
- **Mathematics**: Introduction to Analysis, Abstract Algebra, Abstract Linear Algebra, Numerical Analysis, Programming for Mathematical Applications
- **Data Science**: Principles and Techniques of Data Science, Probability for Data Science

## Technical Skills

- **Programming Languages**: C, Golang, Java, MATLAB, Python, R, SQL
- **Frameworks/Libraries**: Matplotlib, Numpy, Pandas, Plotly, PyTorch, scikit-learn, Seaborn, TensorFlow
- **Tools**: Docker, gdb, git, Logism, LaTeX, Valgrind