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: 3.86
    - Member of Upsilon Pi Epsilon Honor Society
    - EECS Honors Program
    - Dean's List

TEACHING EXPERIENCE

- **River City High School** — West Sacramento, CA
  Teaching Assistant — *Aug 2021 – May 2022*
    - Worked as a student teaching assistant for school's AP Calculus course.
    - Taught some classes, presenting key concepts in a clear and concise manner to students, along with working through examples to help deepen their understanding of the material.
    - Helped design assignments such as in-class work, homework, and exam problems to reinforce core ideas.
    - Graded assignments from students and offered clear explanations on areas to improve upon.

- **River City High School** — West Sacramento, CA
  After-school Tutor — *Aug 2019 – May 2022*
    - Volunteer tutor for mathematics, ranging from Algebra 1 to AP Calculus BC and AP Statistics.
    - Clearly explained core concepts to students and provided help on assignments.

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

PROJECTS

- **Audio Analyzer and Visualizer** │ Java, Processing
    - Displays different representations of audio, including waveform and polar graphs, alongside a responsive visualizer.
    - Implemented a Discrete Fourier Transform algorithm, along with smoothing the RDFT.
    - Includes a beat detection feature by observing the audio's level and seeing if there's a marginal difference.
    - Created 3D objects that moved, rotated, and changed size and color based on audio frequency levels.
    - Created moving 3D terrain using Perlin Noise mapped to audio frequencies, moving based on frequency values.

- **Terminal ASCII Art Generator** │ Python, NumPy, Pillow
    - Created program to convert an image to ASCII.
    - Utilized Pillow to extract pixel information, then performed transformations to get intensity information and map to corresponding ASCII character.
    - Includes limited set of colors usable by all terminals. Determined best-matching color to use with linear algebra.
    - Implemented Sobel filter for edge-detection to further refine the resulting image.

SKILLS

- **Programming Languages**: C, Golang, Java, MATLAB, Python, R, RISC-V, Scheme, Snap, SQL
- **Frameworks/Libraries**: Matplotlib, Numpy, Pandas, Plotly, PyTorch, scikit-learn, Seaborn, TensorFlow
- **Tools**: Docker, gdb, git, Logism, Valgrind
- **Mathematics**: Abstract Algebra, Algorithms, Complexity Theory, Cryptography, Discrete Mathematics, Linear Algebra, Linear Programming, Logic, Numerical Analysis, Real Analysis
- **Other**: Bilingual (English/Vietnamese), Public Speaking, LaTeX, TikZ