

Tri Pham

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EDUCATION

California State University, East Bay

Bachelor of Science, Computer Science

Hayward, CA

Aug. 2022 – May 2024

De Anza College

Associate in Science, Computer Science

Cupertino, CA

Sep. 2019 – Aug. 2022

EXPERIENCE

Simulation Scenario Creator, Autopilot

June 2025 – Present

Tesla

Palo Alto, CA

- Create high-value 3D simulation scenarios using proprietary in-house tools to enhance Full Self-Driving and Optimus
- Make critical judgment calls on difficult edge cases and identify areas for improvement in tooling interfaces
- Executed Quality Assurance protocols to validate the team's simulation scenario output for stakeholders
- Designed a comprehensive onboarding program and train new hires to be production ready in one week

Lead Rock Band Instructor

November 2022 – June 2025

San Jose Jazz - Bridges Academy Middle School

San Jose, CA

- Introduce middle school students with no experience to the electric/acoustic guitar, bass, piano, and drums
- Prepare customized musical arrangements of popular songs based on student's skill level
- Delegate educating and supervising responsibilities in coordination with teacher assistant
- Rehearse and perform with students for seasonal concerts and school events

Freelance Photographer

August 2023 – Present

Pham Tri Photo

San Jose, CA

- Developed a keen eye for design and composition, enhancing the creation of visually appealing interfaces
- Managed multiple projects simultaneously, delivering high-quality results under tight deadlines
- Worked closely with clients to understand their vision and requirements, translating them into creative solutions
- Utilized advanced photo editing software, demonstrating technical proficiency and attention to detail

PROJECTS

Blender Steinway MIDI Grand Piano | *Blender, Python, mido, python-rtmidi*

May 2026 – Present

- Engineered real-time MIDI-driven piano in Blender with physics-based key animation and pedal control using Python (mido + python-rtmidi)
- Automated a Blender-to-web pipeline (Python export, GLB optimization, key manifest) and shipped a Three.js viewer on Vercel with Web MIDI, PBR materials, and product-style camera presets for live demos
- Created immersive live performance visualizations featuring real-time key depression and resonance animations synchronized to actual piano playing
- Demonstrated advanced 3D asset control, real-time data pipelines, and interactive digital instrument simulation

Rogue Tank Royale | *React, Three.js, TypeScript, Zustand*

March 2025 – April 2025

- Created a 3D tank battle game with React and Three.js, featuring dynamic enemy AI and a shrinking safe zone
- Implemented a state management system using Zustand to handle player stats, upgrades, and game progression
- Designed interactive gameplay mechanics including weapon selection, power-ups, and terrain obstacles
- Optimized real-time rendering and physics for smooth performance across various devices

Smart Mirror | *Raspberry Pi, Python, OpenCV, MagicMirror²*

September 2024 – October 2024

- Engineered a custom smart mirror combining hardware (Raspberry Pi), software (MagicMirror²), and woodworking
- Integrated OpenCV facial recognition with Raspberry Pi camera for personalized user experiences
- Designed and constructed custom wooden frame with two-way mirror, demonstrating cross-disciplinary skills

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, HTML/CSS, YAML, Python, C/C++, SQL

Frameworks: React, Next.js, Node.js, Vue.js

Developer Tools: Git, GitHub, VS Code, Cursor, Blender, Vercel, PyCharm, CLion, Adobe Lightroom and Photoshop

Libraries: shadcn/ui, Three.js, Vite, pyautogui