

Michael Huang

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EDUCATION

California Polytechnic State University - San Luis Obispo <i>Bachelor of Science in Computer Science, Minor in Philosophy; Graduation: August 2025</i>	San Luis Obispo, CA GPA: 3.40
<ul style="list-style-type: none">Relevant Coursework: Data Structures & Algorithms, Computer Architecture, Operating Systems, Systems Programming, Database Systems, Deep Learning	

PROFESSIONAL EXPERIENCE

Dynamic Experts <i>Contract AI Engineer</i>	December 2024 – January 2025 Remote
<ul style="list-style-type: none">Delivered a fully documented, production-ready codebase with 157 unit tests (Vitest), ensuring seamless handoff to the client engineering teamArchitected a production-grade MCP (Model Context Protocol) server to expose deep-research capabilities, integrating Gemini 2.5 Pro with markdown sanitization and automated citation handlingOptimized async polling architecture with 90-minute timeout handling to support long-running inference tasks (60+ minutes), solving critical timeout issues in standard HTTP request flows	
Solidigm (Formerly Intel NAND) <i>Automation and Product Engineering Intern</i>	

HACKATHON

SkepticScript – Claude Code Hack Day <i>Azure Speech, Gemini, TypeScript</i>	Jan 2026
<ul style="list-style-type: none">Won 2nd place (Silver Medalist) out of 25 teams at Claude Code Hack Day @ AWS with Jam.devArchitected a real-time speech verification engine that cross-references live audio against LLM knowledge basesEngineered a JSON Schema validation layer using Gemini to ensure deterministic, error-free outputs from non-deterministic LLMs, solving structural hallucination issuesLed orchestration of four microservices (Azure Speech, Gemini, Backend, Frontend) and shipped a fully integrated, crash-resistant MVP in a 9-hour sprint	

PROJECTS

Generative Adversarial Network (GAN) <i>Python, PyTorch, Sklearn, Jupyter Notebook</i>	
<ul style="list-style-type: none">Implemented a GAN on the Frey dataset to generate realistic facial imagesTuned architecture and training parameters (convolutions, LeakyReLU, optimizers) to stabilize training and improve sample quality	
Convolutional Neural Network (CNN) <i>Python, PyTorch, Sklearn, Jupyter Notebook</i>	
<ul style="list-style-type: none">Built a CNN to classify images from a complex dataset. Incorporated data augmentation techniques like rotation, flipping, and zooming to improve generalization and reduce overfittingUsed pretrained models like VGG19 to extract style and content features and applied optimization techniques to generate blended images. Experimented with different styles and evaluated the quality of the generated images	
Neural Network (NN) Optimization <i>Python, PyTorch, Sklearn, Jupyter Notebook</i>	
<ul style="list-style-type: none">Experimented with various hyperparameters (learning rate, batch size, number of layers, and activation functions) to optimize neural network performance. Evaluated results using accuracy, precision, and recall metricsEnhanced the neural network's generalization by implementing regularization methods such as L1/L2 regularization, dropout layers, and early stopping to reduce overfitting	

Personal Finance Dashboard (MERN) | MongoDB, Express, React.js, Node.js, JavaScript, TypeScript

- Built a full-stack budgeting application with real-time transaction syncing and automated expense categorization using the MERN stack
- Implemented secure user authentication and RESTful APIs to manage user accounts and transaction data reliably
- Designed a responsive dashboard with visual spend breakdowns and filters so users can quickly identify patterns and adjust decisions

Custom Linux Shell & System Programming | C, POSIX

- Implemented a custom Linux shell supporting pipes and process management to mirror core Unix behavior
- Built a text-based client-server messaging tool between two Linux machines using sockets
- Developed a tape archiver and Huffman encoder/decoder to explore low-level compression techniques

Huffman-Encoding/Decoding | C, Linux

- Implemented Huffman Encoding and Decoding in C to compress and decompress text files. Built frequency tables, constructed Huffman trees, and generated encoded binary output
- Included functionality to decode binary files back into original text format and compare file sizes before and after compression, achieving typical compression ratios of 40-60%

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript (ES6+), TypeScript, SQL, HTML/CSS, Bash/Shell

Web Development: React.js, Node.js, Express, MongoDB, RESTful APIs, Next.js, HTML5, CSS3

AI/ML: PyTorch, TensorFlow, Gemini API, Azure Speech SDK, Sklearn, Jupyter Notebook, LLMs, Generative AI, Neural Networks, Deep Learning, NLP, Computer Vision

Backend & APIs: Node.js, Express, MongoDB, PostgreSQL, REST APIs, GraphQL, Microservices, MCP, Authentication

Systems & Infrastructure: Linux, POSIX, Unix, System Programming, Sockets, Process Management, Git, Docker, CI/CD

Tools & Other: Git, GitHub, Vitest, Jest, Pytest, Confluence, Jira, Agile, AWS, Azure, Firecrawl API