

Michael Cheung Ka Ming

mcheung1368@gmail.com • (341) 356-2303 • <https://www.linkedin.com/in/michaelcheungkm/> • <https://github.com/michaelcheungkm>

EDUCATION & CERTIFICATION

Carnegie Mellon University – Silicon Valley

Master of Science in Mobile and IoT Engineering (GPA: 3.8)

Pittsburgh/Mountain View, United States

May 2027

University of California, San Diego

Bachelor of Science, Mathematics and Computer Science (Provost Honor)

San Diego, United Sates

Jun 2025

AWS Certified Developer - Associate

Feb 2028

AWS Certified Solutions Architect - Associate

Oct 2027

AWARDS & COMPETITIONS

- CMU TECH Fellow (2026)
- UCSD Provost Honor (2024)
- Top 15 Global Ranking, Performance Review Commission (PRC) Data Challenge (2024)

WORK EXPERIENCE

ONC Our National Conversation

Los Angeles, United States

SOFTWARE ENGINEER INTERN

Feb-Jul 2025

- Designed, developed, and deployed a scalable distributed content delivery API using Node.js/Express and RESTful principles, integrating seamlessly into production web application serving real-time data to users.
- Optimized mobile responsiveness across 10+ sub-pages with responsive HTML/CSS/JavaScript, incorporating load testing to ensure reliability under high traffic.
- Collaborated with cross-functional teams to enhance system performance, scalability, and user experience.

Swinburne University of Technology

Australia

ML SOFTWARE ENGINEER

Aug-Nov 2024

- Engineered an open-source machine learning model for predicting aircraft Actual Takeoff Weight (ATW) and fuel burn, securing top-15 placement in global PRC Data Challenge.
- Performed end-to-end data pipeline development: feature engineering, model training/tuning with Random Forest, and validation achievement 99.8 R² on test data for resource-constrained environments.
- Utilized NumPy and scikit-learn for preprocessing, optimization, and analysis to deliver precise aviation predictions.

Chevron Health

United States

SOFTWARE ENGINEER INTERN

Jul-Oct 2022

- Developed end-to-end ML pipeline processing 3M+ biometric data points, incorporating imputation, NLP, and deep learning for accurate prognosis modeling.
- Built interactive 3D neural network visualizations in JavaScript and automated literature extraction/summarization, generating 100+ relevant paper recommendations per query.
- Improved diagnosis accuracy for 200+ patients through optimized data flows, automation, and evidence-based insights, emphasizing scalable backend design.

SKILLS

Programming Languages: C, C++, Python, JavaScript, TypeScript, Java, C# (Proficient in data structures, algorithms, and OOD)

Embedded & Specialized: ARM Assembly, CUDA (GPU programming), Lua, VBA

Web and Mobile Development: React, React Native, Vue.js, Node.js, Express.js, Django, Swift, HTML/CSS

Databases & Cloud: PostgreSQL, MongoDB, SQLite, NoSQL, AWS (EC2, S3, Lambda), Azure, Docker (Containerization)

AI/ML & Data: TensorFlow, PyTorch, Hugging Face, Transformers, scikit-learn, Apache Spark; NumPy, SciPy, Pandas; NLTK, spaCy, NetworkX; LongChain, Tableau

Tools & Practices: Git (Version Control), Selenium/Puppeteer (Testing/Automation), Large-Scale System Design Principles

Operating Systems: Linux, Windows, macOS, Android, iOS

TECHNICAL PROJECTS

TinyML Gesture Recognition System (CMU Project)

- Designed and deployed a compressed TinyML neural network (<50KB) on Particle Photon 2 MCU using TensorFlow Lite for Microcontrollers and ADX345 accelerometer.
- Achieved >94% accuracy on 6-class gesture classification with low resource usage (<15KB RAM, <30ms latency), enabling privacy-preserving, real-time inference for IoT/wearable devices via curricular buffering and sliding-window processing.

Pittsburgh Bus and Weather Monitoring Dashboard (Personal Project)

- Designed and deployed an IoT sensor stack using LoRa protocol and MQTT (Mosquitto) to publish weather data via Node-RED flows. Built a real-time React frontend with Chart.js visualizations.
- Integrated public transit API polling every minute to track 5 key campus bus routes.
- Trained a model on 3 weeks of data to predict delays using environmental and historical inputs, achieving >90% accuracy on late-time estimations.

Scoreboard Pro – Online Submission and Automated Leaderboard Platform (Research Assistant Project)

- Led and developed a full-stack platform for 20+ student groups to submit F1 score predictions with automated evaluation and real-time Leaderboard, using Python/Flask, React, scikit-learn and secure file handling.
- Eliminate manual grading, boosted submission 3x, and improved top groups' F1 scores by 18% via instant feedback.

BoldBrew (UCSD Incubation Project)

- Co-developed a dating app for UCSD's incubator, implementing backend authentication, Chatbot integration for profiles, and full-stack infrastructure to analytics, using React, React Native, Node.js, MongoDB and Swift.