# Kendrick Nguyen

San Diego, CA · (858)-952-2267
nguyen.kendrick@yahoo.com · https://www.linkedin.com/in/kendrickngu yen010/ · https://nguyenkendrick.work/

## EDUCATION & AFFILIATIONS

**University of California, San Diego** **September 2024 – Present**
*M.S. Electrical & Computer Engineering*
- Research area in Machine Learning & Data Science

**University of California, San Diego** **September 2020 – June 2024**
*B.S. Electrical Engineering | Minor in Cognitive Science*
- Concentration depth in Computer System Design

## WORK EXPERIENCE

**Quality Engineer Intern** **June 2024 – September 2024**
*Texas Instruments*
- Performed accelerated dielectric breakdown tests on TI high-voltage isolation devices using hipots and thermoregulated saline baths.
- Deployed a company-wide full stack application to optimize lab procedures and monitor job statuses for +20 production-live hipot test equipment.
- Developed a load balancing script to allocate and schedule GPIB requests for test equipment, reducing bottlenecks and improving data automation throughput.

**ECE Makerspace Lab Assistant** **October 2023 – June 2024**
*UCSD ECE Department*
- Trained students, staff, and faculty in the safe use of machines and tools (such as 3D printers, laser cutter, electronics tools, hand tools, etc.).
- Developed a Flask-based wrapper to streamline member sign-outs and track machine usage/material consumption by integrating API requests and webhooks from a third-party member management system.

**Technician & Data Analyst** **April 2023 – June 2024**
*UCSD The Basement*
- Mentored +12 student startups working in the prototyping lab, providing technical support, workshops, and materials.
- Built a room reservation application using Django, Firebase, and Google Cloud to coordinate booking requests; implemented Docker for containerization and GitHub Actions for automated deployment, ensuring seamless continuous integration.

**Product Support Engineer Intern** **October 2022 – September 2023**
*Northrop Grumman Aeronautics Systems*
- Optimized the Failure, Reporting, Analysis, and Corrective Action System (FRACAS) process to facilitate data transparency and integrity of reliability lab data by developing an automated ETL pipeline using MySQL.
- Designed a stacked random forest model using XGBoost to predict aircraft hardware breakdowns and automate root causes analysis.

**ECE Department Tutor** **August 2021 – December 2022**
*UCSD ECE 5 Making, Breaking, and Hacking Stuff*
- Instructed students with labs encompassing microcontrollers, communication, digital signal processing, and embedded systems and control.
- Fabricated boilerplate line-following robot chassis for students' final project competition, equivalent to ~800 hours of 3D-printing.

## PROJECTS

**Relational Database Application** **April 2024 – June 2024**
- Created a relational database from scratch in C++ capable of processing and remoting MySQL-like commands, utilizing architectural and design patterns to tokenize, parse, validate, dispatch, and output user-queries.
- Integrated a custom storable interface to adapt various entity objects into storable binary buffers and to abstract block-level input/output operations.
- Modularized database design by implementing indexing and caching using a custom template meta-programming interface to reduce search time.

**Manga Colorization** **February 2024 – March 2024**
- Designed a CycleGANs-based model and image-to-image pipeline to automate colorization for manga panels using PyTorch.
- Enhanced training efficiency by implementing a custom gradient scaling module that optimized cycle-consistency loss and training stability.
- Analyzed style-transfer effects over a scraped dataset of over 8,000 manga panel images from five distinct authors/series.

**Mood Mesh** **September 2023 – December 2023**
- Built an ubiquitous mood enhancing smart light system that dynamically adjusts colors and brightnesses based on JSON-ified biometric data collected from a wearable application using Android Studio.
- Formulated a RESTful architecture between the smart watch's android application, a server application hosted on Raspberry Pi, and the smart lights.

**IoT Geo-Logger** **August 2022 – May 2023**
- Prototyped a geo-logger car plug-in device, fabricated from a custom 4-layer PCB embedded with an ESP-IDF microcontroller and LoRa GPS module.
- Aggregated geolocation data from AWS IoT Core to compute and display car-trip infographics on an iOS app, developed in PlatformIO and SwiftUI.

## SKILLS

- **Hardware Tools/Platforms:** Autodesk Inventor, Fusion 360, Nastran, SolidWorks, Inkscape, OrCAD PSpice, Altium Designer, EAGLE.
- **Lab Equipment:** Oscilloscopes, Function Generators, Logic Analyzers, Soldering (Iron and Reflow), 3D-Printers (FDM, SLA, SLS).
- **Languages:** C, C++, R, Python, ARM Assembly, HTML/CSS, JavaScript, SystemVerilog, MATLAB
- **Software Tools/Technologies:** MySQL, PostgreSQL, MongoDB, Postman, Flask, Django, NumPy, Pandas, PyTorch, Pytest, GTest, Git, Bash, Docker