Kyle Chiem

(267) 312-5131 | kyle.chiem@outlook.com | linkedin.com/in/kyle-chiem | github.com/CruidGals

Education

The Pennsylvania State University – Schreyer Honors College — University Park, PA
Bachelor of Science in Computer Science and Math, College of Engineering — *Aug. 2024 - May 2027*
Cumulative GPA: 4.00/4.00
Relevant Coursework: Data Structures & Algorithms, Systems Programming, Object-Oriented Programming, Digital Design

Strath Haven High School — Wallingford, PA
High School Diploma — *Sep. 2020 - Jun. 2024*
Cumulative GPA: 4.00/4.00 — Honors: National Honors Society

Experience

HackPSU Tech Team — Aug 2025 - Present
Software Engineer — *University Park, PA*
- Contributed to full-stack **Next.js (React, TypeScript)** platform supporting **500+ participants** during peak hours
- Maintained and extended a unified **NestJS** API, modularizing endpoints for authentication, finance, and event services
- Prioritized mobile-first UI through **Progressive Web App** design, ensuring reliability under **unstable WiFi** conditions

LPAC - Laboratory for Perception, Action, and Cognition — Feb. 2025 - Present
Undergraduate Research Assistant — *University Park, PA*
- Procured **over 1.3 million frames of human motion capture (MoCap) data** using Vicon Motion Capture tools
- Contributed in developing a **transformer with PyTorch**, achieving **SOTA performance** in foot pressure prediction and setting a **new benchmark of 15.95 mm** mean error in center-of-mass estimation with movement video as input
- Optimized neural network through **hyperparameter tuning** with **Optuna**, improving prediction performance by **13%**

Nittany AI Alliance Student Chapter — Jan. 2025 - May 2025
Machine Learning Apprentice — *University Park, PA*
- Designed a **RAG Chatbot** using Sentence Transformers and **Tiny LLaMa LLM** for finance-related Q&A over PDFs
- Preprocessed **100,000+ NIH Chest X-ray** data to train a **CNN** to detect pneumonia patients at an accuracy of **92%**
- Explored overfitting control, RL reward shaping, and model evaluation with precision and confusion matrix analysis

Projects

Tetris AI | *Python, PyTorch, TensorBoard, NumPy* | *GitHub* — May 2025 - Present
- Designed a **deep RL network** with **Python and PyTorch** to learn Tetris, clearing **400+ lines** per game
- Vectorized matrix operations using **NumPy**, achieving over **3x speedup** and reducing **100+ lines of code**
- Implemented **prioritized experience replay** using **segment trees** to improve sample efficiency and stabilize training
- Leveraged **TensorBoard** in analyzing performance metrics to improve overall model structure and hyperparameters

MacroMate (2nd Place at HackPSU) | *Git, FastAPI, SQLAlchemy, Flutter* | *GitHub* — Oct. 2024 - Nov. 2024
- Developed a nutrition planning app using **Flutter and OpenAI API** based on users' biometrics and weight goals
- Created scalable **FastAPI** backend to store **75+ pages** of daily scraped data from Penn state dining hall menus
- Designed a **full-stack** pipeline and coordinated with four others in **under 24 hours**

SHHS Activities | *Kotlin, SQL, Firebase* | *GitHub* — Jan. 2024 - Jun. 2024
- Engineered a **Full Stack** app with **Kotlin**, facilitating club discovery, engagement, and announcements in my high school
- Leveraged **Firebase API** to integrate a scalable backend capable of storing over **100+ clubs** and **1000+ users**
- Programmed **20+ SQL queries** that sustain a robust data retrieval backend and enable customizable querying for users

Technical Skills

Languages: Python, Java, C++, C, SQL, JavaScript, Typescript, Kotlin, Flutter
Technologies: Git, PyTorch, TensorFlow, NumPy, Optuna, SQLAlchemy, Firebase, React.js, Next.js, NestJS, Linux
Concepts: Data Structures & Algorithms, Reinforcement Learning, Computer Vision, API Integration, Full-Stack Development, Problem Solving, Analytical Reasoning