

Gary Pham

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Education

Drexel University, Pennoni Honors College

Philadelphia, PA

Bachelor of Science in Computer Science, Minors in Computer Engineering & Mathematics

Graduation: Jun 2025

Concentration: Computer System & Architecture, Algorithms & Data Structure

GPA: 3.70 - Dean's List

Skills

Programming Languages: C, C++, Python, Java, Racket, Haskell, Bash, Kotlin, Go, Rust, Pascal, SQL, Assembly (x86)

Tools: CMake, Visual Studio, IntelliJ IDEA, Git, UNIX, CCS, Arduino, UML, DrRacket, Docker, AWS, Clang, GCC, MOS

Operating Systems: Windows, Linux (Ubuntu, Mint, Kali, Raspberry Pi), MacOS

Frameworks: Django, Node.js, Angular, Spring

Research

Lexicographically Minimum String Rotation

Drexel Senior Project 2025

Quantum Researcher

[\[Link\]](#)

- Investigating quantum algorithms for solving the lexicographically minimal string rotation problem, applicable in data compression, bioinformatics, and text analysis
- Designing quantum algorithms to evaluate all string rotations simultaneously using quantum circuit design
- Implementing algorithms on platforms such as Qiskit and IBM Quantum devices
- Benchmarking quantum performance against classical algorithms focusing on speed, resource requirements, and scalability
- Currently working on applications toward benzenoid identification for the "Week of Excellence" at Drexel, scheduled for mid-May

Robust and Risk-aware Planning for Autonomous Vehicles in Smart Cities

Drexel VIP Research 24-25

Embedded Researcher

[\[Link\]](#)

- Building a reliable and risk-aware smart city simulation to assist in testing and advancing autonomous vehicle (AV) technologies
- Addressing urban challenges like adverse weather conditions and malicious attacks on AV perception systems
- Integrating ROS2 with a custom-designed smart city environment to support advanced vehicle-to-vehicle and vehicle-to-infrastructure communication
- Designing and hosting the simulation while developing a scalable AV control system using ESP32 boards with a pure C-language kernel
- Planning and enhancing additional infrastructure to improve realism and effectiveness in autonomous vehicle testing

Design Project

Good Meal - Better Healthcare Better Life

Drexel DragonHacks 2023

Full-Stack Programmer

[\[Link\]](#)

- Developed a web application using JavaScript and Node.js to retrieve and integrate API data for enhanced functionality
- Fine-tuned Chat-GPT models, improving response accuracy and user interaction quality
- Designed an interactive UI with HTML and CSS, incorporating animations and optimized image rendering

TDD Bank System

Drexel Course Project 2022

Backend Programmer

[\[Link\]](#)

- Built a Java-based banking system following Test-Driven Development (TDD) principles with 300+ test cases
- Conducted mutation testing and code quality assessments to ensure system robustness
- Implemented core banking functions (account creation, deposits, withdrawals, transfers, time-based transactions)

Work Experience

Drexel College of Computing and Informatics

Philadelphia, PA, US

Course Assistant

Spring 2023 - Present

- Supporting students in assigned courses by holding office hours, and lab sections
- Assisting professors by involving in the grading system to handle a large number of students in courses
- Reviewed and improved course materials to maintain instructional quality each term

Medcrypt

Solana Beach, CA, US

CO-OP Embedded Software Engineer

Spring 2024 - Summer 2024

- Designed an optimized ASN.1 encoder/decoder in C to reduce storage requirements on STM32
- Resolved symbol conflicts between customer and company libraries, ensuring seamless software integration
- Worked with embedded systems development, focusing on performance and security enhancements

FPT Software, OCR Quy Nhon Team

Hanoi, Vietnam

Internship A.I Researcher

Summer 2022

- Developed and optimized Optical Character Recognition (OCR) models for scanned hieroglyphs (Japanese Kanji)
- Implemented Object Detection and Convolutional Neural Network (CNN) model variants using Python (NumPy, Matplotlib, Pandas)
- Contributed to full-stack development with Java and Angular, integrating OCR capabilities into web applications

Activities

Participant, Philly Code Fest 2023 and DragonHacks 2023

Varsity Player, Drexel Badminton Club, 2021 to Present

Participant, ICPC USA Regional Contest, 2021 to Present

Varsity Player, Hanoi Swimming Team, 2020 - 2021