Art Nguyen

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Education

- Clarkson University - Potsdam, New York
- Bachelor of Science in Computer Engineering | Graduation: Dec 2025 | GPA: 3.12
- Master of Science in Electrical & Computer Engineering | Expected Graduation: Dec 2027

Skills

- **Languages**: C, C++, C#, Python, Java, Kotlin, JavaScript (TS/Node.js), SQL, HTML/CSS/Tailwind, VHDL, XAML, TCL
- **Frameworks:** Next.js, React, Flask, WPF, ASP.NET, Avalonia, Django, SPFx, ROS2(Humble), Chirpstack, Autoware
- **Key Skills:** API Integration, RF & Serial Communication, DSA, Unit Testing, App Deployment, Documentation
- **Soft Skills:** Problem Solving, Team Focused Development, Competent Communication
- **Spoken Languages:** English, Vietnamese

Tools

- **IDEs & Dev Tools:** Visual Studio (Code & 2022), Vivado 2019+, STMCube(IDE & ProG), Eclipse IDE, Vitis, Quartus II, Git (GitHub, Bitbucket), SVN, Jira (Agile), Azure DevOps
- **Databases:** MySQL, PostgreSQL, MongoDB, Redis
- **Cloud & Environment:** AWS,(S3,Lambda), Azure, Google Cloud, Firebase, Docker, Apache, VMware
- **Other Tools:** FPGAs(and SOMs), Remote Desktop, PuTTY, Powershell, AutoDesk Maya, Blender, Windows, Linux

Professional Experience

Teaching Assistant, *Clarkson University* — Jan 2026 - Present

- Designed, quality-checked, and graded embedded systems labs, directly supporting hands-on learning for undergraduate engineering students.

Assistant Researcher, *Clarkson University AVHBAC Lab* — April 2024 - Jan 2026

- Developed FPGA designs on **Xilinx Kria KV/KR 260** platforms to enable reliable serial communication and precise motor control for a robotic hand.
- Integrated a **Deep Learning Processing Unit** (DPU) to hardware-accelerate custom YOLOv7 models, significantly improving real-time object detection performance on embedded hardware.
- Designed and implemented a high-resolution (up to 4100 PPI) infant fingerprint sensor and processing pipeline, improving capture accuracy for biometric research.
- Built a desktop application with a custom OpenCV pipeline to capture near-infrared iris images using specialized NIR cameras.
- Developed a **WebSocket-based** application for manual **EEG** data recording using the Emotiv EPOC X headset, enabling flexible neuroscience experimentation.
- Designed and assembled custom **LoRa + STM32 PCBs** and integrated them with the ChirpStack framework to support data collection for a smart farming system.

Software Engineering Intern, *C Speed, LLC* — January 2025 - May 2025

- Built an internal HR and accounting system integrating two third-party services, streamlining payroll workflows and saving approximately **96 hours per month**.
- Modernized a legacy desktop application by rewriting it in **C#** using **Avalonia**, enabling cross-platform support and improving maintainability.
- Partnered with the Director of Operations to develop a company intranet on Microsoft SharePoint, delivering custom **SPFx** web parts and automated workflows using Power Automate.

Assistant Researcher, *Clarkson University CAMEL Lab* — June 2025 - October 2025

- Created custom vehicle models and high-fidelity point-cloud and vector maps to simulate autonomous driving scenarios in Autoware.
- Successfully integrated Autoware with the Scout 2.0 vehicle platform, enabling fully autonomous operation on real-world roads.

IT Assistant and Database Manager, Pediatric Medicine Clinic – Phạm Thị Minh Hồng — June 2019 - August 2021

- Implemented and managed a database system to track daily medicine imports, exports, and medical expense statements. Ensured accurate and efficient operations of the clinic's inventory and financial reporting.
- Handled a daily patient load of ~100, providing technical support related to online payments, medical records, and financial reporting.

Projects

Hardware Accelerated AI Fingerprint Sensor and Authentication system purely on an FPGA

- Built a fingerprint sensor that is able to capture and process fingerprints then hardware accelerates a Siamese neural network model through a deep learning processing unit to authenticate biometric characteristics of a fingerprint to verify user identity entirely hosted on an FPGA.