Art Nguyen

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Education

- Clarkson University - Potsdam, New York
- Bachelor of Science in Computer Engineering | Expected Graduation: Dec 2025 | GPA: 3.12
- Master of Science in Electrical & Computer Engineering | Expected Graduation: Dec 2026

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

Assistant Researcher, *Clarkson University AVHBAC Lab*   April 2024 - Present
- Developed **FPGA** designs for **Xilinx's Kria KV&KR 260**, enabling serial communication and motor control for a **robot hand**.
- Integrated a **Deep-learning Processing Unit (DPU)** on the Kria KV&KR 260 to hardware accelerate custom YOLOv7 AI models on the robotic hand.
- Designed and created a high-resolution (up to 4100 PPI) **fingerprint sensor** and processing pipeline for accurate infant fingerprint capture.
- Developed a desktop application with custom OpenCV build to capture Iris with **NIR** camera.
- Developed a **websocket application** to allow manual recording of EEG brainwaves using Emotiv's EPOC X
- Designed and assembled custom **LoRa + STM32** PCBs to be integrated onto **Chirpstack** framework for a smart farm application.

Software Engineering Intern, *C Speed, LLC*   January 2025 - May 2025
- Developed an in-house HR and Accounting application integrating two **third-party services**, streamlining payroll operations and saving approximately **~96 hours per month**.
- Rewrote a legacy desktop application to **C# Avalonia** to modernize the system and enable **cross-platform** support for all employees.
- Collaborated closely with the Director of Operations to build a new company intranet using Microsoft SharePoint, incorporating custom **SPFx** web parts and automated workflows with MS Power Automate.

Assistant Researcher, *Clarkson University CAMEL Lab*   June 2025 - October 2025
- Created custom vehicle models and custom point cloud + vector maps to simulate autonomous vehicles on **Autoware**.
- Integrated **Autoware** onto the **Scout 2.0 vehicle platform** to enable **fully autonomous driving** on real streets.

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.

Personal Website
- Portfolio website built with NextJS with Typescript hosted with Vercel at **https://workofart.zip**

FPGA Text Editor
- Engineered an interrupt-driven text editor entirely on an FPGA from scratch, accepting serial PS/2 keyboard inputs and displaying text on a 640x480 VGA screen. Stored text and RGB color data for each character in on-board BRAM.