

# DANIEL HUYNH

US Citizen | Clearance: **Secret** | Phoenixville, PA | danielhuynh523@gmail.com | (215) 870 5157 | Website: [danielhuynh0.github.io](https://danielhuynh0.github.io)

## EDUCATION

**Johns Hopkins University**, Baltimore, MD

Master of Science in Computer Science | January 2025 – January 2027

**University of Virginia**, Charlottesville, VA

Bachelor of Science in Computer Science, Summa Cum Laude | **GPA: 3.92 / 4.0** | August 2021 - May 2024

*Achievements* | Co-Founder of Project Code @ UVA, Dean's List: all semesters, National Merit Commended Scholar (2021)

## SKILLS

**Languages/Frameworks:** Java, Python, C++, C#, Typescript, JavaScript, PHP, SQL; SpringBoot, WPF, Next.js, Angular, Django

**Software:** Visual Studio, Git, Docker, AWS (EC2, RDS, Lambda), Arduino IDE, .NET, PostgreSQL, Heroku, Gradle, Maven

**Libraries:** React, TensorFlow, Flask, scikit-learn, PyTorch, JavaFX, NLTK, JUnit, jQuery, BeautifulSoup, Matplotlib, pandas

## EXPERIENCE

### *Associate Software Engineer*

**Johns Hopkins University Applied Physics Laboratory**, Laurel, MD | September 2024 – Present

- Research cutting-edge cyber alert risk classification machine learning models, used in **critical government networks**, receiving almost **40k** in funding. Outperformed state-of-the-art models in multiple metrics, presented, & working on paper.
- Spearhead new features for *FRISC* software, monitoring **critical infrastructure network traffic** for cyberattacks, building packet sniffers & parser software for network enumeration. Reduced analysis time by **40%** through optimized traffic logging logic. Responsible for implementing account & session management, CLI, and startup procedure. (Java, SpringBoot, React).
- Rebuild *Dagger Web* systems modelling software to Angular from AngularJS & own all user config settings implementation.

### *Software Engineer Intern*

**Ansys**, Exton, PA | May 2024 – August 2024

- Solely built from scratch **menu & toolbar system** for the new UI redesign of flagship product *STK* with C#, C++, WPF, .NET.
- Refined low-level backend logic, app startup, file & registry I/O, integration, and bug fixes to backend *STK Engine* with C++.

### *Perception and Motion Planning Researcher*

**Cavalier Autonomous Racing** | April 2024 - August 2024

- Led development on ground segmentation for LiDAR point cloud data using Patchwork++ for vehicle perception on ROS 2.
- Developed UCS & other graph search algorithms for **spatiotemporal graphs**, predicting & optimizing vehicle pathfinding.

### *Research Assistant, Head of IoT Team*

**The FloodWatch Project at UVA** ([floodwatch.io](https://floodwatch.io)) | May 2023 - August 2024

- **National Science Foundation** funded. **Lead researcher of LiDAR sensors** for flood mapping using **LoRaWAN** network, adopted & deployed by city of Da Nang, Vietnam, tripling percentage of mappable regions in Vietnam (Arduino, C++).
- Built & maintained **APIs** and **robust data pipeline**, spanning from the source of IoT devices, gateways, to databases on AWS EC2, using AWS Lambda and JavaScript webhooks. Experienced in embedded systems, **APIs**, **REST**, and networks.

### *Software Engineer Intern*

**Ansys**, Exton, PA | May 2023 – August 2023

- Solely developed feature to simulate & calculate large datasets of satellite communications to ground antennas, reducing previous conflict computation from quadratic to **logarithmic time**. **Adopted by major telecommunications company**.
- Developed cross-format 3D antenna **file converter** to ensure compatibility with *STK* software, researched 3D file formats.

**Teaching Assistant - CS3100 (Algorithms) & CS2130 (Computer Systems) at UVA** | August 2022 – May 2023

- **DSA2:** Led teaching in graph traversal, greedy, and ML algorithms, dynamic programming, proofs, & runtime analysis.
- **CSO1:** Taught C, C++, computer architecture & networks, Linux, Git. Led labs of ~100, own responsibility for 15 students.

## PROJECTS

**BudgetBuddy** | **Capital One's Best Finance Hack Winner @ HooHacks 2023** | *JavaScript, Python, Flask, Twilio API, GPT API*

Automated financial assistant connecting to bank account transactions (via Plaid API), with a budgeting & spending dashboard, monitoring user spending. Used Twilio and OpenAI GPT APIs to enable instant mobile SMS communication with app's chatbot.

**HealthWay** | *Next.js, Typescript, Google Cloud Platform, PostgreSQL, YOLOv5, Google Vision AI, FastAPI*

Health app and smart fridge tracker using computer vision to detect live food inventory changes, generating personalized recipes based on available ingredients. Used YOLOv5 to detect direction of movement to determine addition or removal.

**CliniVision Project at UVA** | *Next.js, Flask, CNNs, Spatial Transformers, PyTorch*

**Head of Diagnosis machine learning team.** Built web app & computer vision models to diagnose X-rays for health conditions.

**HooEvents** | *Django, PostgreSQL, Heroku, Bootstrap, Google OAuth, Google Maps API, GitHub Actions, CI/CD*

Social app for student event discovery at UVA. Built UI, CI/CD pipeline, login, map display & geolocation, & hosted on Heroku.

**Pacman AI Agent** | *Python, Reinforcement Learning*

Wrote Q-Learning reinforcement learning algorithm to train Pacman bot. Achieved **~100%-win rate**, trained on only 50 games.