DANIEL HUYNH

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

EDUCATION

University of Virginia, Charlottesville, VA
Bachelor of Science in Computer Science, Summa Cum Laude | **GPA: 3.92 / 4.0** | August 2021 - May 2024
Coursework | Machine Learning, Artificial Intelligence, NLP, Web Development, Computer Systems, Algorithms
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
Operating Systems: Windows, MacOS, Linux (WSL & Ubuntu)
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
- Spearheaded new features for *FRISC* software, monitoring **critical infrastructure network traffic** from cyberattacks. Reduced analysis time by **40%** through optimized traffic logging logic, rebuilt startup procedure. (Java, SpringBoot, React).
- Enhanced test coverage of *Cloud Dagger Web* widgets from **33% to 96%**, building a new test suite on Angular & Jasmine.
- Rebuilt *Dagger* systems modelling software in 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**) | May 2023 - August 2024
- **National Science Foundation** funded. **Lead researcher of LiDAR sensors** using **LoRaWAN** network for flood mapping, deployed by city of Danang, VN, tripling percentage of regions able to be mapped in Vietnam (Arduino, C++).
- Built & maintained **APIs** and **robust data pipeline**, spanning from IoT devices, gateways, to databases on AWS EC2, using AWS Lambda and JavaScript webhooks. Experienced in embedded systems, **APIs**, **REST**, and networks.

Application 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.

Researcher, Head of Diagnosis Machine Learning Team
CliniVision Project at UVA | September 2023 – May 2024
- Led a team building CNN & Spatial Transformer models to diagnose X-rays for health conditions, using PyTorch, Next.js.

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. Used Twilio and OpenAI GPT 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.

HooEvents | *Django, PostgreSQL, Heroku, Bootstrap, Google OAuth, Google Maps API, GitHub Actions, CI/CD*
Social app for student event discovery at UVA. Solely responsible for login using Google OAuth, geolocation services using Google Maps API, database, & hosting on Heroku. Automated CI/CD pipeline & testing with GitHub Actions.

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.