

With projects and schooling spanning four continents, my engagements have cultivated a **deep passion for intelligent, embedded, and robotic systems, a huge appetite for change, and a self-driven mindset matured from challenging adversity.**

EDUCATION

Cornell University B.S. Electrical and Computer Engineering, Robotics Minor Exp. May 2024

Notable Courses: Data Structures and Object-Oriented Programming, Digital Logic and Computer Organization (S21), Discrete Structures (S21), Lasers and Photonics (S21), Multivariable Calculus (S21)

The International School of The Hague IB Diploma

May 2020

STEM EXPERIENCES

Cornell Electric Vehicles *Autonomy (SW/HW) Sub-team Member*

Ithaca, US | 11/2020 - present

- Selected onto 40-person team developing hyper battery-efficient autonomous urban concept car for Shell Eco-Marathon Americas.
- Develop efficient F-RCNN models to improve accuracy and speed of dynamic object detection.
- Design power converters, distribution system, and logic level boards for supporting specialized autonomy system.
- Fabricate high-frequency performance data acquisition sensor boards, database data relay, and live display GUI.
- Currently in onboarding, learning and implementing cutting-edge ML, board design, and manufacturing techniques and tools.

Visionz *Startup Co-Founder and CTO*

<https://www.visionz.me>

The Hague, Netherlands | 11/2020 - present

- Co-founded startup producing technology solutions for industries with technological integration potential.
- Lead development of AR/VR product *STAR*, Smart Tourism and Recreation, immersive history experience for tourism sphere.
- Progress incorporated *SAFE*, Smart Assistance for Elders, and break duty management system into commercial use.

Cornell HackOurCampus Hackathon *Team Leader and Finalist*

Ithaca, US | 8/2020

- Led team of 4 developing social distancing and de-densification monitoring and enforcement tool for high-density locations.
- Delivered 30 minute pitch to judges including SEs and VCs. Achieved top 3 in category from 20+ competing teams across 3 categories.
- Developed iPhone/iPad app for tracking and displaying live density 'hotspots' using Swift and mapping frameworks.
- Designed web server collating data and determining size and radius of 'hotspots' using Firebase DB, frontend dev tools.

ISH Developer Community *Co-Founder and 5x Project Leader*

The Hague, Netherlands | 8/2018 – 6/2020

- Co-founded community developing IoT solutions for shortcomings in school and local community.
- Led 5 projects including break duty rostering and management system for staff, and greenhouse microclimate control system.
- Engineered SW/HW integrated products. PCB design and C++ firmware development. Extensive use of Arduino microcontroller.
- Developed for iPhone/iPad using Swift, data manipulation using R. Extensive CAD modelling and 3D printing for product housings.
- Major commendation from school executives and local representatives for impact.

Silverback Engineering *Team Leader and Head of Engineering*

The Hague, Netherlands | 8/2017 – 2/2020

- Led team of 12 designing ICE vehicle to compete at Shell Eco-Marathon Europe in London. Placed among top non-university teams.
- Developed integrated communication and performance data relay with NodeMCU. CAD designed and 3D printed system housing.
- Improved Gx35 ECU wiring and tuning using EcoCAL by quantitative fuel efficiency benchmarks.
- Advised upcoming team on transition into electric vehicle category on BMS and power distribution system.

Smart Assistance for Elders (SAFE) *Independent Researcher*

Netherlands and India | 2/2017 – 8/2018

- Developed mobile app, ML model, and sensor array for predicting and preventing temperature-stress conditions among the elderly.
- Piloted product with several elderly households in India under guidance of renowned doctor.
- Designed low power consumption board using perf board techniques. Utilized rapid prototyping approach.
- Leveraged Keras and TensorFlow to develop and train non-linear FF neural network. Wrote research paper on observed training issue.
- Received recognition for product and paper from acclaimed University of Amsterdam computer science department.

SPECIALIZED SKILLS

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|----------|-------------------|----------------------|---------------------|
| ▪ Python | ▪ FPGAs | ▪ Internet of Things | ▪ Team Leadership |
| ▪ Java | ▪ Verilog | ▪ TensorFlow | ▪ Communication |
| ▪ C++ | ▪ Arduino | ▪ Project Jupyter | ▪ Adaptability |
| ▪ Swift | ▪ Altium Designer | ▪ IBM Watson | ▪ Critical Thinking |
| ▪ ROS | ▪ Onshape CAD | ▪ Git | ▪ Problem Solving |

ADDITIONAL EXPERIENCES

WTS Energy Netherlands Guest Speaker : Presented to international energy production execs on modern IoT technologies and ML solutions.

Senior Code@ISH Club Co-Head : Delivered weekly lectures on Python, Java, and Processing simulations and ML scripts to seniors and faculty.

Eight-Time MUN Participant : Submitted main resolutions in 8 MUNs, including prestigious THIMUN conference, on big data/AI topics.