# GRACE TANG

PITTSBURGH, PA | ASHBURN, VA

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## EDUCATION

**Carnegie Mellon University**, School of Computer Science — MAY 2025
Bachelor of Science in Computer Science — Pittsburgh, PA

**Thomas Jefferson High School for Science and Technology** — JUNE 2021
GPA: 4.53 — Alexandria, VA

## SKILLS

**Languages:** Python, Java, JavaScript, React.js, HTML/CSS, C++, LaTeX
**Software/Platforms:** Git, Vim, Visual Studio Code, MySQL, UNIX, AWS, Scikit-Learn, PyTorch

## EXPERIENCE

**Naval Research Lab** – Plasma Physics Division — JUNE 2020 – PRESENT
*Lead Engineer Intern | Intern-admin | Project manager* — Washington, D.C.

- Organize seminar content, guest speakers, and events calendar
- Coauthor *TurboPy: A Lightweight Python Framework for Computational Physics* research paper
- Launch TurboPy python framework on PyPI for open-source use
- Create TurboPy GitHub repository to present intern's progress at the APS-DPP Conference
- Implement Multigrid Method Solver in turboWAVE C++ Framework to accelerate iterative method for solving the Poisson equation

**Carnegie Mellon Racing** – Autonomous — SEP 2021 – PRESENT
*Software Lead* — Pittsburgh, PA

- Develop YOLOv1 from scratch for real-time cone detection trained on AMZ driverless dataset
- Utilize AWS SageMaker to accelerate neural network training
- Apply Hough Transforms on edge detection for vehicle lane detection
- Dissect NVIDIA neural network to program and train autonomous Donkey Car on personalized model
- Design Python software architecture using read-control-actuate workflow inspired by Cornell PAN software

**Model R** – Manned Mars Rover — AUG 2020 – JUNE 2021
*Senior Thesis Researcher* — Alexandria, VA

- Design buggy-style rover for future space exploration
- Build rack-and-pinion steering system with 4WD, counter phase steering, and double wishbone suspension system as team lead for steering subsystem
- Enhance NASA Mars Rover Challenge with electric powered motors and steering
- Waterjet and weld aluminum frame and steel control arms

**COVID-19 Tracking Website** – Thomas Jefferson High School — MAY 2020
*Web & API Developer* — Alexandria, VA

- Gather global COVID-19 data and launch API using Flask
- Render interactive map and data retrieval functions with React.js with student team

## AWARDS & ACHIEVEMENTS

**DC Metro Hacks** – Grand Prize & 1st Place Environmental Hack — NOV 2019
*App Developer* — Reston, VA

- Predict probability of wildfire based on $CO_2$ and relative humidity data at 80% accuracy
- Implement gradient descent optimization on neural network with TensorFlow
- Design mobile application with Android Studio with team of 3 peers