LISA CHEN

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EDUCATION

Virginia Polytechnic Institute and State University, *B.S. Computer Engineering* | *Aug 2024 - Jun 2027*
Graduate of Honors — Dean's List

PROFESSIONAL EXPERIENCE

Hume Center for National Security and Technology, VA *Undergraduate Researcher* | *Sep 2025 – Present*

- Collaborate with **CACI International** on a **machine learning program for RF signal prediction and spectrum analysis** to support national security applications.
- Apply **Python-based ML techniques** and **signal processing methods** to improve model accuracy and feature extraction from radio frequency datasets.
- Attend **weekly 3-hour RF research seminars** led by faculty, covering advanced concepts in **signal theory, modulation, and spectrum utilization**.

Virginia Tech Department of Computer Science, VA *Undergraduate Researcher* | *Apr 2025 – Present*

- Developed a **prototype math problem generator** using **1B–70B parameter models** to study **LLMs' logical reasoning capabilities**, incorporating uniqueness detection through **Lean 4** as a proof checker.
- Analyzed linguistic and computational diversity in math problems by **clustering GSM8K questions by concept** (ratios, percentages, etc.) and evaluating variation in phrasing and computational structure.

Virginia Tech Student Engineering Council, VA *Information Technology Committee Member* | *Sep 2024 – May 2025*

- Identified and resolved bugs in legacy code for the Engineering Expo and transitioned the codebase to a modern tech stack (**JavaScript**, **Svelte**), enhancing UI responsiveness and reducing navigation time by **40%**.
- Updated and maintained the **SEC website** by refining navigation and page layouts using **Ensemble**, ensuring a seamless experience for **13,000+** College of Engineering students.

FIRST Robotics Competition, CA *Director of Web and Robotics Development Teams* | *Aug 2021 – Jun 2024*

- Directed a team of **14 full-time developers** (and **80 total members**), contributing **700+ hours** to robotics and leadership operations. Implemented GitHub version control practices, reducing code loss by **60%**.
- Modernized legacy systems by integrating **automated mechanisms** using **odometry**, **adaptive PID control**, and **AprilTag vision processing**.
- Rebuilt infrastructure with **React**, **Firebase**, and **MongoDB**, increasing user engagement by **30%**.

PROJECTS

Personal Website, *Portfolio* | *Mar 2025 – Oct 2025*

- Developed a **personal portfolio website** using **Svelte**, **TypeScript**, and **CSS**, showcasing projects, research, and experience with a minimalist responsive UI.
- Deployed via **Firebase Hosting** with automated **GitHub Actions CI/CD pipelines**, reducing deployment time by **75%** and improving accessibility and SEO.

NutriScan: Food Health and Allergen Tracker, *Hackathon Project* | *Jun 2024 – Aug 2024*

- Built an application for **food barcode scanning and nutrition tracking**, integrating multiple APIs to display allergen data and compute personalized health scores.
- Used **EJS**, **Firestore**, **Zxing Barcode Library**, and the **NutriScore API** to enable real-time data management and product evaluation.

COURSES & SKILLS

- **Courses:** *Intro to ECE, Multivariable Calculus, Linear Algebra, Calculus II, Physics I & II, Foundations of Engineering, Statistics, Circuits & Devices, Computational Engineering, Fundamentals of Digital Systems, Differential Equations, Data Structures & Algorithms*
- **Languages:** *Proficient:* English — *Intermediate:* Chinese, Spanish
- **Tools / Frameworks:** Java, Python, C/C++, JavaScript, TypeScript, Verilog, MATLAB, React, Svelte, Node.js, Express.js, HTML/CSS, AntDesign, Mantine, SQL, MongoDB, Firebase, Firestore, Figma, Ensemble, Fusion 360, SolidWorks, Git, GitHub, Unity

LEADERSHIP & ACTIVITIES

- **Department of Physics**, *Teaching Assistant (Aug 2025 – Present)*:
  - Assisted **100+ students** in **Physics I lectures** by facilitating **iClicker sessions**, reinforcing key concepts, and supporting in-class problem-solving and demonstrations.
- **Corps of Cadets**, *Cadet, Virginia Tech (Aug 2025 – Sep 2025)*:
  - Trained and mentored peers in a **training company of 30+ cadets**, dedicating **20+ hours/week** to leadership and military instruction focused on teamwork, resilience, and discipline.
- **Code Ninjas**, *Intern (Aug 2024 – Apr 2024)*:
  - Assisted instructors **12 hours/week** by mentoring students in **Unity game development**, **Python**, **JavaScript**, and **Roblox Studio**, improving engagement and comprehension among 40+ learners.
- **The Leukemia & Lymphoma Society**, *Fundraising Manager (Nov 2022 – Jun 2023)*:
  - Led a **7-week fundraising campaign**, organizing outreach with a **15-member team** through recurring emails and regional competitions. Raised over **$45,000** to support cancer research initiatives.