EDUCATION

Cornell University   *Ithaca, NY*
Computer Science & Linguistics   *Expected Graduation 2030*
Millburn High School   *Millburn, NJ*
Graduating Honors Class of 2026   *Sept. 2022 – June 2026*

RESEARCH

StutterZero & StutterFormer: End-to-End Speech Correction for Stuttering   *Sept. 2024 – Present*

- Developed encoder-decoder and Transformer models using Pytorch to transcribe and correct stutters from speech signals
- Introduced & published the first end-to-end model for stutter correction, US Utility Patent #19/288,365 under review
- https://ieeexplore.ieee.org/document/11288978
- github.com/justanotherinternetguy/StutterZero

XSpeech: Multi-Branch Learning for Multi-Class Stuttering Classification   *Sept. 2023 – April 2024*

- Built CNN-LSTM multi-branch model using Tensorflow to classify and diagnose stuttered speech
- Published in the National High School Journal of Science
- github.com/justanotherinternetguy/XSpeech

μLang − Generating a Morphologically Average Conlang Lexicon   *June 2025*

- Explored genetic, evolutionary, and neural algorithms to generate and simulate linguistic evolution
- Published on Wolfram Community
- Invited to speak at Wolfram Technology Conference 2025

Characterizing Percussive Damage in Fossil Wood   *Sept. 2023 – June 2025*

- Applied VGG16/19, ResNets & Haralick texture features to identify and classify damage on fossil wood samples caused by primate tools
- Linked results to archaeology, bridging primatology with computational analysis
- Co-authored primatology/archaeology study under professor mentorship

AWARDS & HONORS

1st Place Grand Award − International Science and Engineering Fair | *Computational Biology*   *May 2025*

1st Place − New Jersey Academy of Science | *Health & Medicine*   *May 2025*

ISEF Grand Prize − Terra North Jersey STEM Fair | *Bioinformatics*   *March 2025*
- Placed top 6 out of 200+ projects
- 1st Place Bioinformatics Award (2025)
- Regeneron Biomedical Science Award
- Karen Kranz Memorial Award

Semifinalist & Honorable Mention − USA Biology Olympiad | *Top 5-10% nationally*   *2023, 2024*

Gold − British Biology Olympiad | *Top 5% internationally*   *2024*

Finalist − American Computer Science League | *Top 5%-10% nationally*   *2023*

First Tech Challenge Robotics | *Team #8405 & #23650*   *2023*
- Inspire Award (2025)
- Control Award (2024)
- Innovate Award (2023)

Projects

SignSensei | *Python, Mediapipe, Tensorflow, OpenCV, Streamlit* | github.com/SignSensei   *2023*
- Developed a web application to gamify learning American Sign Language (ASL)
- Built and trained a custom Tensorflow ML model for hand pose detection and classification
- Awarded the Wolfram Award at PennApps 2023 (Top 20 projects)

Sen_deX | *Python, Electron, Pytorch, Transformers, Flask, Supabase* | github.com/sen_dex   *2025*
- Built a full-stack application to predict trends in research
- Implemented innovative embedding analysis, inverse embedding, and clustering algorithms
- Awarded the Best Educational Hack at PennApps 2025

Work Experience

Sync Labs   *University of Pennsylvania*
Software Engineering/AI Intern   *June. 2024 – Sept. 2024*
- Led development of facial and action recognition models (FaceNetV2, MoViNet) to provide personalized health information (exercise, diet, nutritional intake) for residents in senior homes
- Fine-tuned and deployed CV models and LLMs on Raspberry Pi IoT devices

Leadership & Volunteering

Conlang Club | *Founder & President*   *2023 – Present*
- Founded club to explore constructed languages (Quenya, Klingon, Dothraki, etc.) and applied linguistics
- Grew membership from 10 to 40+ in two years
- Co-founded *Verborum*, the first high school–only linguistics magazine; recruited submissions from 4+ countries and personally edited 10+ articles out of 60+ collected

HackMHS VIII, IX, X, XI | *Co-organizer*   *2023 – Present*
- Organized NJ's largest high school hackathon (100+ participants annually)
- Built hackmhs.com, secured sponsors, acquired Bambu 3D printers, ran workshops and technical talks
- Fostered an inclusive hackathon community, leading logistics and outreach

Teaching Assistant | *USA Biolympiad Prep*   *2024 – 2025*
- Mentored high school biology students through weekly lectures, office hours, and custom practice exams
- 13/60 students taught advanced to USABO Semifinals

Wolfram Student Ambassador   *2024 – 2025*
- Mentored OneHacks V hackathon (200+ participants)
- Answered questions virtually, gave technical talks and workshops on data science and the Wolfram Language

Scratch Instructor | *Millburn Institute of Talent*   *2022 – 2023*
- Designed and taught Scratch CS curricula to elementary/middle schoolers
- Boosted program revenue by $4k+

Robotics Summer Coach | *West Caldwell Tech*   *2023*
- Taught robotics and CS to 100+ underserved middle schoolers in 3-week summer camp

Technical Skills

Languages: Python, Java, C/C++, SQL (Postgres), JavaScript, Wolfram Mathematica
AI/ML: Deep Learning (CNNs, LSTMs, Transformers), Time-Series Analysis, Audio Processing, Computer Vision, NLP
Technologies: Pytorch, Tensorflow, Next.JS, Firebase, Supabase, Flutter, Linux
Skills: Data Science, Computational Modeling, Full-stack Web Development, Autonomous Robotics, System Administration