

A high school junior with a love for writing and computer science; passionate about using technology to design a better future. Interested in internship/volunteer opportunities and computer science research.

PROJECTS

Opioid Reduction Atlas—*Stanford Statistics for Social Good with Dr. Tamang @ Stanford, Fall 2023*

- Writing a research paper to be published that studies geospatial trends of opioids and how they spread, as well as identifying opportunity areas through social determinants of health to act to treat it.
- <https://docs.google.com/presentation/d/1Jm6Zke-rsGsM38bR-NPoyMaAV5-cFgECopBLYPtluQw/edit?usp=sharing>

Autolearnr—*AI-Enhanced Web Platform for Personalized Learning with LLM Incorporation, September 2023*

- A virtual tutor to help you learn and master anything. Simply upload a pdf – this could be your lecture notes, a part of your textbook, or even a syllabus – and leave the rest to us. We use AI to generate a personalized teaching video, accompanying quizzes, and even a chatbot trained on your material to answer related questions!
- Collaborated with a team of 4 over 36 hours at Hack the North '23 at the University of Waterloo.
- <https://github.com/tianyi-gu/Autolearnr>, <https://devpost.com/software/autolearnr>

Wolfram Research—*Efficient Identification of Winning Lottery Ticket Configurations to Optimize Neural Networks, Fall 2023*

- Research under the Wolfram Emerging Leaders Program (WELP), which selects college students and exceptional high school students to conduct research with Mathematica on efficient artificial intelligence and compressing AI models.
- Culminated in a published research paper using Mathematica

Wolfram Research—*Studying Syntactical Structures of GPT 3.5 with Temperature-Variation through Graph Dissimilarity and Parse-Tree Frequency @ Wolfram Summer Research Program, Summer 2023*

- Supervised by Dr Stephen Wolfram, 'GPT3.5 Syntactic structure with temperature variation using graph and parse-tree similarity, research within the Wolfram High School Summer Research Program (11% acceptance rate)
- Culminated in a published computational essay using Mathematica at Bentley College in Boston, Massachusetts.
- <https://community.wolfram.com/groups/-/m/t/2964145>

Noteo—*Mobile AI/NLP Application for Augmenting Studying/Note-taking, February 2023*

- Used React Native to develop a mobile application targeted towards students with the goal of making studying and note-taking much more effective. Used Optical Character Recognition and Natural Language Processing scripts deployed as Flask REST APIs. Collaborated with a team to design and implement a fully-functioning prototype in under 10 hours.
- Awarded 1st place in the advanced track at MIT Blueprint.
- <https://docs.google.com/presentation/d/1Bfa9AsEJEPrm-UkvgvO65BifpM8owOcYuz-hDLd1TZ4A/edit?usp=sharing>

Artificx—*Mobile AR Application for Enhancing Dining Experience, July 2022*

- Used Swift to develop a mobile application creating an AR menu targeted towards restaurants to facilitate a more immersive dining experience. Practiced fast-paced product design and implementation (48 hr limit)
- Collaborated in a two-person team to compete in Uber Global Hackathon, placing as a Regional Finalist in North America and Europe in the Coding Category (top 45 out of 700+ teams globally)
- <https://youtu.be/Kmiuo5TkV4k>

JourneyFind—*Recommending Crowdsourced Tourist Destinations, February 2022*

- Collaborated with a team of 4 at MIT Blueprint using Android Studio to develop a mobile application aimed at accurately recommending little known crowdsourced tourist gems to visitors.
- Implemented Optical Character Recognition to scan and translate signs between languages automatically.
- Algorithmically recommend landmarks based off of user and google reviews.
- Practiced fast-paced product design and implementation (12 hr limit)
- https://drive.google.com/file/d/1DkPQxTOlh1cRGL1Mz_OVtO7MjclJgFT/view

Golden Sun Food—*Online Ecommerce Website for Restaurant, June~ August 2021*

- Led a team to design and develop a Wordpress website to handle online ordering for a local restaurant.
 - Implemented various Wordpress plugins for ecommerce, payment processing, and more.
 - Designed website and website logos/diagrams/features to customer satisfaction.
 - goldensunfood.com
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EasySpeak— NLP Application to Improve Communication, April 2021

- > Used Python to develop a natural language processing application aimed to allow users to compare and improve their communication skills.
- > Developed capability to analyze polarity, subjectivity, vocabulary, speaking speed, etc, automatically generated graphs and data tables comparing speech.
- > Won 2nd place in the Computer Science division of CSEF and was also selected as a Top 300 Broadcom MASTER.
- > <https://youtu.be/pA8MtE8q5ro>

AWARDS and DISTINCTIONS

Honorable Mention and Voice of the Sea Award at the Bow Seat Ocean Awareness Contest (Poetry and Spoken Word) (2023)

Carlisle Poetry Contest 1st Place Winner (2023)

MIT Blueprint Hackathon Advanced Track 1st Place Grand Prize Winner (2023)

Scholastic Arts and Writing Silver Key by SMFA at Tufts University (Personal Essay & Memoir, Flash Fiction) (2023)

St. Sebastian's Invitational Extemporaneous Debate Tournament Team Winner (2022)

Uber Global Hackathon Regional Finalist-Top 15 Coding Team in NA and EUR (2022)

Broadcom MASTERS-Top 300 Master (2021)

Colorado Science and Engineering Fair Computer Science-2nd Place (2021)

BVSD Corden Pharma Science Fair Computer Science-2nd Place (2021)

Caroline D. Bradley 2025 Scholar (2020)

Duke TIP Grand Honors + John Hopkins CTY High Honors (2020)

COMMUNITY ENGAGEMENT

Software Intern @ MassEnergize, Concord, MA, Summer 2023-

Collaborated with a team of two interns to design, develop, test, and deploy a mobile app version of the MassEnergize Community Portal. Conducted thorough research and analysis to understand user requirements and design an intuitive and user-friendly mobile app interface. Integrated with the existing backend infrastructure, utilizing APIs and ensuring seamless data synchronization between the mobile app and web platform.

Coding Circle @ Boys and Girls Club of Lawrence, MA, Fall 2022

Taught and mentored elementary and middle schoolers weekly at The Boys and Girls Club, exposing them to various robotics and programming basics with platforms such as Code.org and Dash and Dot.

Youth Maker Hangout @ Boulder Public Library, Colorado, 2019~2020

Volunteered at the Boulder Public Library weekly to teach students to create their own projects and present them.

Teaching Assistant @ Build A Robot K12, Superior, Colorado, Summer 2018~2022

Assisted in teaching and mentoring K-8 students in robotics & programming classes virtually & in person.

EDUCATION

Phillips Academy Andover, Andover, MA

September 2021 - June 2025

Varsity Tennis, Co-president of Chess Club, Cofounder of Poker Club, Computer Science Club Board Member, Writing Center Tutor, Peer Tutor, News Associate Editor for The Phillipian, The Philomathean Society Associate, Director of The Andover Computing Open, Digital Coordinator of Andover Science and Tech Review, Editor for The GOAT Sports Magazine, Dorm Ecoleader, 9th Grade Class Representative.

Coursework: Group Theory, Math and Politics, Set Theory, Organic Chemistry, Multivariable Calculus, Linear Algebra, AP BC Calculus, Calculus-Based Mechanics I and II, Calculus-Based Electricity and Magnetism I and II, Discrete Mathematics, AP Music Theory, AP Chemistry, Ethics and Technology.

Summit Middle Charter School, Superior, CO

August 2018 - May 2021

Summit Student Exemplar (top 2 in class), Student Council Co-president, Net-Zero Environmental Club, Quiz Bowl, Math Club (top finisher at Chapter Mathcounts, honorable mention @ UNC & AMC), Science Fair (top finisher at CSEF).
