Katherine Geng

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EDUCATION

Carnegie Mellon University   Pittsburgh, PA
Bachelor of Science in Information Systems, Additional Major in   August 2024 - Present
Artificial Intelligence
Relevant Coursework: Principles of Imperative Computation,
Fundamentals of Programming & CS, Concepts of Mathematics

BASIS Independent Fremont High School   Fremont, CA
High School Honors Diploma   August 2020 - May
Relevant Coursework: AP Computer Science A, AP Computer Science   2024
Principles, Data Structures & Algorithms, Multivariable & Vector
Calculus

EXPERIENCE

Key Club   2023-2024
California-Nevada-Hawaii District Technology Editor

- Lead a team of 11 to manage the official **CNH Key Club website** with over **162,000 annual views**.
- Oversee website enhancements, using **Joomla** for new features and updates.
- Present to **100+ members** at conferences on **online safety** and **web practices**.
- Develop training resources for new editors, ensuring smooth onboarding and effective website management.

Girls Who Code   2023-2024
Co-President & Founder

- Lead weekly sessions, teaching **Python**, **web development**, and **machine learning**
- Create and deliver tailored **computer science presentations** to foster skill development in **STEM**.
- Promote **women in STEM** through discussions on **mental health** and well-being.

Aspiring Scholars Directed Research Program   2023
Machine Learning Researcher

- Co-authored a 10-page research paper comparing **SHAP** and **LIME** applied to a lung cancer prediction model.
- Developed and deployed a program integrating **Explainability AI** methods to improve transparency in machine learning models.

EWGIS Summer Research Program   2022
Machine Learning Researcher

- Co-authored a 13-page research paper on **MLP**, **SVM**, and **Random Forests** for molecular toxicity prediction using **Tox21 public data**.
- Utilized **RDKit** and advanced molecular representations (**SMILES**, **Mols**, **Molecular Fingerprints**) to improve model accuracy.

PROJECTS

California-Nevada-Hawaii Key Club Website https://www.cnhkeyclub.org/	2023-2024
A Comparative Analysis of Explainable Artificial Intelligence Methods for Lung Cancer Prediction Research Paper | Code	2023
A Benchmark Study: Different Machine Learning Algorithms for Predicting Molecular Toxicity Research Paper | Code	2022

AWARDS

National Center for Women & Information Technology (NCWIT) **National Honorable Mention (top 10%) & Regional Affiliate**	2023

LANGUAGES/TECHNOLOGIES

Python, Java, HTML, CSS, Javascript, React.js, Joomla