

Liam Cassidy

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EDUCATION

Dartmouth College

Bachelor of Engineering in Computer Engineering (Dual-Degree Program)

Hanover, NH

Aug. 2023 – June 2026

Colby College

Bachelor of Arts in Computer Science, Minor in Mathematics

Waterville, ME

Aug. 2021 – May 2025

EXPERIENCE

Undergraduate Research Assistant

INSITE Lab at Colby College

June 2024 – May 2025

Waterville, ME

- Facilitated development of Swift application with containerized Express.js & React.js server allowing blind and vision-impaired users to navigate indoors with the Boston Dynamics Spot robot
- Designed a local server-based archival tool in MongoDB & React.js to manage and analyze meteorological and ecological data
- Processed months of bird audio recordings using machine learning techniques, including spectral feature extraction and unsupervised clustering, to identify patterns in species activity and behavior

Undergraduate Data Science Intern

DIFUSE Project at Dartmouth College

Sep. 2023 – Mar. 2024

Hanover, NH

- Devised exercises and modules for a climate change unit, integrating data science concepts into a Geography course as part of an NSF-funded project
- Shaped lesson plans to integrate a custom tool for visualizing thermodynamics concepts in a Physics course curriculum
- Refined Python-based Jupyter Notebooks using Pandas and Matplotlib for student use, focusing on accessibility, interpretability, and alignment with course outcomes

Undergraduate Smart-Home Technology Researcher

Dartmouth College

July 2023 – Aug. 2023

Hanover, NH

- Conducted technical analysis of Matter-enabled smart-home devices, working with a diverse research team to streamline onboarding flows across iOS and Android ecosystems
- Created user experience documentation and onboarding evaluation tools that guided the team in identifying usability friction and improving accessibility
- Co-authored and presented a research paper at ACM HotMobile 2024, contributing insights and revisions during team writing sessions

PROJECTS

Sillybus | *Python, Flask, HTML, CSS, JavaScript*

Oct. 2023

- Led a 4-person team through the full project lifecycle using Scrum methodology during a 24-hour hackathon, from idea generation to deployment and presentation
- Built a full-stack web app integrating the Google Classroom REST API to automate syllabus-to-assignment conversion using OCR and machine learning
- Acted as project coordinator, aligning team strengths and managing time constraints to ensure functional delivery under competition conditions

Twitter Analysis of Online Vaccine Discourse | *Twitter API, Python, R*

Jan. 2022 – Aug. 2023

- First Place Winner of the Columbia University 2023 COVID Information Commons Student Paper Challenge
- Collaborated with two classmates to assess Twitter user, post, and hashtag data related to anti-vaccine discourse during the COVID-19 pandemic
- Applied topic modeling and community detection techniques in Python and R to uncover demographic patterns and map user influence across Twitter

TECHNICAL SKILLS

Languages: Java, Python, C/C++, Swift, SQL, JavaScript, HTML/CSS, R, MATLAB, VHDL

Frameworks: Express.js, React.js, Node.js, Flask

Developer Tools: Git, Docker, Singularity, GCP, AWS, MongoDB, Jupyter, Linux, VS Code, Eclipse

Libraries: pandas, NumPy, Matplotlib, scikit-learn