

# UYEN LE

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## EDUCATION

**Denison University**, Granville, Ohio

*Bachelor of Science, Applied Mathematics*

*Bachelor of Arts, Computer Science*

**Aug 2020 – Expected Dec 2023**

**GPA: 3.98/4.00**

**Teaching Assistantships:** Mathematical Foundations of Computer Science (CS234), Introduction to Computer Systems (CS281), Advanced Differential Equations (MATH 434)

## PUBLICATIONS

Son Quoc Tran, Phong Nguyen-Thuan Do, **Uyen Le**, and Matt Kretchmar. 2023. [The Impacts of Unanswerable Questions on the Robustness of Machine Reading Comprehension Models](#). In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics*, pages 1543–1557, Dubrovnik, Croatia. Association for Computational Linguistics.

## RESEARCH EXPERIENCES

**Stanford University** – [Dubra Lab](#)

*Part-time Research Intern*

*Supervisor: Dr. Alfredo Dubra*

**Palo Alto, CA**

**Jul 2023 – Present**

- Conduct research on **Adaptive Optics Systems** for retinal imaging, which involves real-time adjustments of scanners to rectify optical distortions and software solutions to generate high quality retinal images.
- Develop an automated **image registration algorithm** in Python, integrated with Cupy, to align snapshots of the retinas, reducing the need for manual work and accelerating data processing.

**National Center for Supercomputing Application** – [SciAuth Project](#)

*Research Fellow*

*Mentor: Dr. Derek Weitzel*

**Urbana, IL**

**Jan 2023 – Apr 2023**

- Collaborated on a student-led research project in **cybersecurity**, built on prior work by the **NSF SciTokens** project.
- Built a new module for the [SciTokens library](#) based on Python JSON Web Tokens to allow users to generate sample tokens with custom payloads from the command-line, enabling testing and experimentation in **OAuth2 workflows**.
- Incorporated Flask frameworks to demonstrate web token authorization within the SciTokens library.

**Denison University** – **Natural Language Processing Lab**

*Anderson Summer Research Scholar*

*Supervisor: Dr. Matt Kretchmar*

**Granville, OH**

**Feb 2022 – Aug 2022**

- Fine-tuned three variants of **BERT** on SQuAD (Stanford Question Answering Dataset) and conducted extensive experiments to evaluate the robustness of current **machine reading comprehension models**.
- Identified the advantages of fine-tuning models on additional unanswerable questions in improving robustness against adversarial attacks, compared to those fine-tuned solely on answerable questions.
- Conducted extensive literature reviews, synthesized research findings to support key arguments, and actively participated in manuscript drafting of the publication.

## CONFERENCE PRESENTATIONS

**Uyen Le**. 2023. The Impacts of Unanswerable Questions on the Robustness of Machine Reading Comprehension Models. Poster presented at *Nebraska Conference for Undergraduate Women in Mathematics*. [[Poster](#)]

**Uyen Le**. 2023. A Survey Data Consolidation and Reporting System. Presented at *Ohio Association for Institutional Research and Planning*. [[Presentation](#)]

## INDUSTRY EXPERIENCES

### NCR Corporation – Payments and Networks

#### Software Engineer Intern

Atlanta, Georgia

May 2023 – Aug 2023

- Led the migration effort of NCR Payments Solutions built in Go and C++ to Azure Kubernetes Service, increasing the system scalability by 2x and achieving availability rate of 99.95%.
- Incorporated Helm and Argo CD to drive continuous delivery, reducing build time by 45% and errors by 75%.
- Streamlined the development process by creating Bash scripts to automate local dev environment setup.

### Denison University – Institutional Analytics Hub

#### Research Assistant Intern

Granville, OH

Sep 2022 – May 2023

- Compiled survey reports, data cleanup, and architected a scalable relational database to house institutional surveys.
- Built a GUI for an automated data manipulation and dashboard visualization pipeline with Python and Tableau.
- Collaborated with cross-functional teams to develop data-driven solutions for institutional successes.

## PERSONAL PROJECTS

### spec.boots: Bootstrapping Spectral Density [\[Link\]](#)

- Investigated bootstrap methods to obtain a reliable estimation of time series spectral density without dependence on the sample-level periodograms and assumptions about data distribution.
- Implemented and distributed an R package to bootstrap the spectral density of a time series object by resampling the original periodogram, with enhanced accuracy and visual clarity over R's [mvspec](#) spectral estimation method.

## AWARDS & HONORS

- Grace Hopper Scholar by AnitaB.org
- SciAuth Cybersecurity Research Fellowship at National Center for Supercomputing Applications [\[Link\]](#)
- Texas State Summer School in Mathematical Physics (2023) [\[Link\]](#)
- Sigma Xi, The Scientific Research Honor Society
- Upsilon Pi Epsilon International Honor Society
- Alice Hutchinson Lytle Award (2023), *awarded to the senior female with highest cumulative GPA in Math & CS*
- Daniel Donald Bonar Mathematics and Computer Science Award (2023), *for engagement in department initiatives*
- Chosaburo Kato Memorial Award (2022), *awarded to the most promising junior major in the department*
- Forbes B. Wiley Award (2021 & 2022), *to sophomores and juniors for Excellence in Math & CS*
- 1<sup>st</sup> Place in Four College Math Contest (2022) [\[Link\]](#)

## LEADERSHIP & SERVICE

### Denison University – University Honor Committee

#### Academic Integrity Board Member

Granville, OH

Sep 2022 – Present

- Participate in hearings related to academic integrity violations and make recommendations for suitable actions.
- Engage in the academic integrity code revision project that meets biweekly to ensure alignment with university policies and values.
- Facilitate monthly discussions with students and faculty aimed at promoting awareness of academic integrity and fostering a culture of continuous learning on campus.

### Denison University – Student Alumni Council

#### Fundraising and Stewardship Member

Granville, OH

Jan 2023 – May 2023

- Coordinate with the Office of Institutional Advancement to plan and execute fundraising campaigns for the university, resulting in a \$7.8B donation record and the establishment of 50 new funds to support financial aid.
- Represent the student body at alumni events, including homecoming and reunion weekends, to foster student-alumni relationships, provide campus updates, and solicit donations from over 8,000 total donors.