

Lonnie Chien

lonniechien@uchicago.edu <https://lonniechien.github.io>

Education

University of Chicago

M.S. in Computer Science—Pre-Doctoral Program

- GPA: 3.94/4.00

Sept. 2024 – Present

Chicago, IL

Swarthmore College

B.S. in Engineering, Applied Mathematics Minor

- GPA: 3.72/4.00

Sept. 2019 – May 2023

Swarthmore, PA

Publications

[2] Characterizing Snowpack with 60 GHz FMCW Millimeter-Wave Radar Sensors

Stijn Wielandt, Ivo Marković, Lonnie Chien, Diana Morales, Ryan L. Crumley, Baptiste Dafflon, Reynold Cooper. In *Asilomar Conference on Signals, Systems, and Computers 2023*

[1] Determination of Nonlinearity Parameter B/A of Liquids by Comparison with Solutions of the Three-Dimensional Westervelt Equation

Lonnie Chien, John M. Cormack, E. Carr Everbach, Mark F. Hamilton. In *Proceedings of Meetings on Acoustics 2021*

Research Experience

University of Chicago – Human Computer Integration Lab

Graduate Student Researcher advised by Pedro Lopes

- Pre-Doctoral program emphasizing advanced computer science research in preparation for PhD studies.
- Research in the areas of technical human computer interaction, haptics, gestural user interfaces.

Sept. 2024 – Present

Chicago, IL

Lawrence Berkeley National Laboratory – Climate and Ecosystem Sciences Division

Research Affiliate co-advised by Vidya Ganapati, Stijn Wielandt

- Invented radar signal processing algorithm to measure snow depth, bulk density, and ice layering within 25mm accuracy.
- Validation of AI-generated computed tomography images by classifying healthy vs. COVID and intracranial hemorrhage.
- Presented Posters at Computing Sciences Summer Program and WD&E Intern Poster Session.

Jun. 2023 – Apr. 2024

Berkeley, CA

Swarthmore College – Department of Engineering

Senior Design Project (E90) advised by Stephen Phillips

- Presented undergraduate thesis on multi-image matching and camera-radar sensor fusion using machine learning.
- Implemented modules for data pre-processing, training, and projecting radar clouds onto images to improve a self-supervised depth estimation model by 9%.

Oct. 2022 – May 2023

Swarthmore, PA

Argonne National Laboratory – Buildings & Industrial Technologies

Science Undergraduate Laboratory Internship (DOE SULI) advised by Ralph Muehleisen

- Urban models coupling pandemic transportation trends with end-use load profiles of residential/commercial building stock.
- Analyzed departure and arrival locations for 369,524 simulated trips to generate building occupancy schedules and infer probabilistic occupancy distributions.

May 2022 – Aug. 2022

Lemont, IL

Swarthmore College – Nonlinear Dynamics Laboratory

Undergraduate Research Assistant advised by E. Carr Everbach

- Measuring acoustic nonlinearity by comparing experimental harmonic generation against mathematical simulations.
- Built MATLAB applications to remotely position hydrophone in 3-D space with micron-level precision and automate customized raster scans, saving 5+ hours of labor per scan.
- Orally presented at 181st Meeting of the Acoustical Society of America.

May 2020 – May 2022

Swarthmore, PA

Awards

\$40,000 Merit-Scholarship, University of Chicago

2024

The John R. '53 and Joyce B. '55 Ambruster Scholarship, Swarthmore College

2023

Centennial Honor Roll, Centennial Conference

2021

Swarthmore College Summer Research Fellowship, Swarthmore College

2021

Tarble Summer Research Fellowship, Swarthmore College

2020

Scott B. Lilly Scholarship, Swarthmore College	2020
Elizabeth Cox Wright Endowed Scholarship, Swarthmore College	2020

Other Projects

- SecureWear: Usable Security and Privacy Study on Wearable Fitness Trackers** Mar. 2025 – May 2025
- Administered surveys, interviews, and educational interventions with users of wearable fitness trackers (e.g., Apple Watch, Strava) to highlight privacy and security concerns.
- Screen Savors: Promoting Healthy Screen Habits** Jan. 2025 – Mar. 2025
- Surveyed and interviewed partially visually impaired users to design application with integrated head tracker to remind users to practice healthy screen viewing habits.
- Robust Gestures: Avoiding Accidental Activation of iPhone Gestures** Sep. 2024 – Oct. 2024
- Designed motion-based iPhone gestures utilizing built-in accelerometer and gyroscope. Conducted user studies on usability and robustness against accidental activation.
- Embedded Jeopardy! Game** Mar. 2023 – May 2023
- Prototyped trivia game with interactive buzzers, joystick shield, LED matrix, and LCD screen using NUCLEO development board.

Coursework

Graduate HCI, Computer Networking, Usable Privacy and Security, Inclusive Tech, Machine Learning

Undergrad Embedded Systems, Computer Vision, Mobile Robotics, Digital Signal Processing

Leadership

- Great Wolf Lodge** Jul. 2024 – Present
Security Guard (seasonal/part-time) *Mason, OH*
- Incident first responder, mediator, crowd control, facilitate police and emergency medical personnel.
 - Surveillance and loss prevention via foot patrols and CCTV; perform safety inspections; security checkpoint attendant.
- Student Advisory Group for Engineering** Sep. 2021 – May 2023
Big Sibling *Swarthmore, PA*
- Academic, professional, and social peer mentor to Swarthmore College undergraduate engineering majors.
- Varsity Men's Swim Team** Sept. 2019 - Jan. 2022
Student Athlete *Swarthmore, PA*
- Competed in NCAA Division 3 athletic program at Swarthmore College.

Skills

Software Python, C, C++, MATLAB; some: Unity, C#, Fusion 360

Hardware Electrical Muscle Stimulation, Breadboards, Soldering, Arduinos

Languages Bilingual in English and Mandarin, took 6 semesters of German

References

Dr. Maggie Delano
Associate Professor of Engineering
Swarthmore College
mdelano1@swarthmore.edu

Dr. Stephen Phillips
Applied Scientist
The Boston Dynamics AI Institute
sphillips@theaiinstitute.com

Dr. Vidya Ganapati
Computational Scientist
Lawrence Berkeley National Laboratory
vidyag@berkeley.edu