Melissa Chen

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Education

University of Illinois at Urbana-Champaign | Bachelor of Science in Computer Science   *August 2018 - May 2022*

- **GPA** 3.97/4.00
- **Relevant Coursework** Linear Algebra, Probability and Statistics, Freshman Honors, Software Engineering Studio, Discrete Structures
- **In Progress** Data Structures, Computer Architecture, Numerical Methods
- **Honors** Chancellor's Scholar, James Scholar, Phi Eta Sigma Freshman Honor Society, Tau Beta Pi Engineering Honor Society (initiate)

Skills

Programming Languages and Frameworks   Java, Python, C++, Keras, Flask, Matlab, R, Haskell

Verbal Languages   English, Chinese, Spanish, Japanese

Experience

University of Illinois at Urbana-Champaign | Undergraduate Researcher   *September 2018 - Present*

- Collaborated with graduate student research mentor, initially through the Promoting Undergraduate Research in Engineering program
- Studied the theory and applications of non-negative matrix factorization and applied it on cancer genomics data
- Researched missingness mechanisms and imputation methods to compare the relative speed of imputation methods for each mechanism
- Performed a literature survey of missing data, neural networks, and related fields to create a neural network to classify data with missing features

Academia Sinica Institute of Information Sciences | Summer Research Intern   *June 2018 - August 2018*

- Analyzed academic papers on various topics in computer vision
- Experimented with Tensorflow and Keras on open source examples

Leadership

HackIllinois | Co-Director   *April 2019 - Present*

- Created and facilitated communication within the HackIllinois summer team
- Coordinated efforts between four teams with various skills to build a foundation for the HackIllinois 2020 event
- Communicated with sponsors and mentors to gather feedback on the 2019 event for improvement

ACM SIGMusic | Co-Chair   *May 2019 - Present*

- Brainstormed ideas for member retention and club promotion by researching and curating meeting and project content
- Planned and built rest API for the organization's project (MusicMaker)

CS 196-25 Freshman Honors | Course Assistant   *January 2019 - Present*

- Hosted office hours to help students understand Python programming and frameworks (i.e. Flask)
- Coded the solutions to a multi-part homework project and assisted students in completing it
- Served as a technical project manager for a group of students

Reflections | Projections | Content, Diversity x Tech Staff   *January 2019 - Present*

- Communicated with other staff members to brainstorm ideas for a new event within the conference.
- Invited trailblazers in the industry to speak at the largest student-run tech conference in the midwest.

Illinois Computer Science Sail | Operations, External & Internal Team Staff   *November 2018 - April 2019*

- Communicated with vendors, parents, students, high school teachers, and fellow staff members to organize catering, buses, and advertising for Sail, a high school outreach event for the computer science department.
- Managed day-of logistics for food, buses, and instructors during the event.

Projects

Music Maker

A webapp that analyzes chord progressions in existing songs to predict the next chord a user should play after a given series of chords

Safeways

A webapp that plots safe routes around recent and frequest crime locations, given data from the MotoSocrata crime API

Non-negative matrix factorization on cancer gene expression data

Used non-negative matrix factorization to achieve 85% classification accuracy on the PANCAN dataset of cancer genomic data