

Melanie A. Chow

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Education

University of Chicago

B.S in Computer Science || GPA: 3.91

Chicago, IL

June 2021

- **Relevant Courses:** Computer Systems, Networks and Distributed Systems, Programming Languages, Usable Security and Privacy, Inventing, Engineering, and Understanding I/O Devices
- **Activities:** UChicago Computer Science Core Tutor, ILC: Entrepreneurship – President, ACM-W, ArtShould

Experience

Braintree (PayPal)

Software Engineer Intern – Infrastructure

Chicago, IL

June 2019 – August 2019

- Pair programmed with senior engineers to create a new secrets management system, and built public key infrastructure utilized by almost every service in the organization
- Created tools and wrote automated tests for issuing, signing, and deploying public and private SSL certificates, shortening SSL workflow times by over 90%
- Developed monitoring and reporting for secrets in our cloud and on-premise environments, significantly reducing risk of down-time by tracking expiration and modification
- Implemented a secret splitting feature, increasing security by requiring multiple people to access a secret
- Engaged in code reviews, worked on interruptions, and pushed code to production within the first week

Chicago Department of Public Health

Software Developer (Tech Team)

Chicago, IL

October 2018 – April 2019

- Created a mobile app to easily help medical providers look up necessary protocols, procedures, and hotlines for various diseases
- Restructured disease data to make it more maintainable by reducing redundancy and nesting, thereby cutting the number of data accesses for read and writes by over 50%

Content Carnivores

Software Engineer Intern

Chicago, IL

October 2018 – April 2019

- Led and developed the company's "built-in compliance" feature by researching the regulation of online financial content with SEC/FINRA compliance laws
- Singlehandedly built a web platform to try to predict future compliance violations by categorizing input to common violations, and matching it to previous cases and relevant laws

Medivis

Software Development Intern

Brooklyn, NY

June 2018 – September 2018

- Created a CosmosDB database and designed a schema to effectively store all of the company's anatomy part data, decreasing access and edit speeds from minutes to seconds
- Built a web interface and REST API for internal teams to add and update anatomy parts, and for clients to view and customize their own anatomy tags

Projects

HICE (on my Wrist)

Arduino, C++, Peltier, 3D Printed

- Body temperature watch that heats or cools by actively reading skin and nearby temperature (June 2019)
- Developed algorithm to determine when to heat/cool, and duration needed to feel temperature change

Destress Cyb.org

EEG Headband, Dragonboard 401c

- Wearable tech that analyzes brain waves and uses computer vision to blur/replace stressors (Feb 2019)
- Created algorithm to determine what combinations of brain wave frequencies indicated stress
- Awarded "Best Overall Hack" and "Best IoT Hack" at UChicago's Uncommon Hacks

Project Safe Route

Angular, Express JS, Heroku, Google Maps

- Web app that determines the safest routes home based on NYC public crime data (September 2018)
- Generates a "safety score" and crime heat map with interactive markers on crime type, location, and time

Skills & Interests

Programming Languages: C, Javascript, Python, Java, HTML, CSS, SQL, R, SML

Tools & Frameworks: AWS, Angular, React, Express.js, Node.js, Jasmine, Git, Terraform, GPG, OpenSSL

Interests: HCI, UI/UX, AI, Cybersecurity, Card making, Animation, Dance, Biomedical Research, Sustainability