Melanie A. Chow

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Education

University of Chicago   *Chicago, IL*
B.S in Computer Science || GPA: 3.91   *June 2021*

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

Experience

Braintree (PayPal)   *Chicago, IL*
Software Engineer Intern   *June 2019 – August 2019*

- Worked on the Infrastructure team to create a new secrets management system, and built public key infrastructure utilized by nearly 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 activity, significantly reducing risk of down-time by tracking secret expiration and modification
- Implemented secret splitting, increasing security by requiring multiple individuals to decrypt a secret

Chicago Department of Public Health   *Chicago, IL*
Software Developer – Tech Team   *October 2018 – April 2019*

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

Content Carnivores   *Chicago, IL*
Software Engineer Intern   *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 predict future compliance violations by categorizing input to common violations, and matching it to previous cases and relevant laws

Medivis   *Brooklyn, NY*
Software Development Intern   *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