# Melanie Chio

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## WORK EXPERIENCE

**Apple** – *Software Engineer at Apple Pay, Home Services*                                      August 2022 – Present
- Implemented backfilling capability for time series ingestion pipelines of 4 signals through command line application in Kotlin, improving accuracy of data analysis by 55% without overwriting existing versions of data in DynamoDB
- Refactored 50% of ingestion pipeline codebase from Java to Kotlin, in turn adding trace IDs and request IDs to Splunk logs
- Enabled conditional HTTP requests to 2 internal API endpoints using eTag headers to reduce bandwidth consumption

**Citi** – *ICG Software Development Intern*                                                     June 2021 – August 2021
- Designed and implemented novel UI frontend components for 16 pages to track and organize internal team documentation
- Built 25% of 40+ Tableau dashboards in testing to stress test data clusters and backend pipelines prior to internal launch
- Collaborated with 2 developers to develop and push to production data probe for Tableau using Python Selenium to automate identification of 87% of node and CPU related errors

**Blind Love Letters** – *Web Developer*                                                        July 2020 – January 2021
- Developed web app with 3 developers ahead of beta launch using React, HTML, CSS, JavaScript, jQuery, Bootstrap, Firebase
- Collaborated with 3 UX designers to create novel UI components from high-fidelity prototypes for About and Profile pages

## PROJECTS

**Celtics Congressional Redistricting**                                                         August 2021 – December 2021
- Built full stack web application to generate congressional redistricting plans of equal population with 3 team members
- Implemented interactive map component to allow users to toggle and view geospatial boundaries of districting plans
- Developed Python and Slurm scripts to automate the process of cleaning precinct-level geospatial data and creating 90,000 random redistricting plans on the SeaWulf Supercomputer on multiple nodes and cores using the MGGG MCMC algorithm

**Clarity** – *HackDuke: Ideate 2020*                                                           July 2020
- Designed full flow, medium fidelity UI web application to make remote learning accessible for Autistic students
- Researched target demographics to understand the shortcomings of existing technologies and need for product in market

**Discover RTC: Data Processing Pipeline** – *Rewriting the Code*                               June 2020 – August 2020
- Developed full-stack web app with 3 college students to automate the process of accessing and analyzing membership data
- Built 5 visualization models in Tableau and connected them to Google Sheets and Railsway Importer to enable live updates
- Implemented data cleaning script using JavaScript and Airtable API on over 7,000 cells of data creating 78% more accurate visualizations and subsequently populating over 5,000 individual profile pages
- Placed 3rd against 20 project teams after presenting to RTC, Morgan Stanley, Two Sigma, and Bank of America leadership

**Other:** First Place – AT&T Women in Tech Hackathon 2016, Second Place – JPMorgan Youth in Tech Challenge 2016

## EDUCATION

**Stony Brook University – B.S. Computer Science**                                               Graduated May 2022
- Relevant Coursework: Analysis of Algorithms, Computer Networks, Data Structures, Data Visualization, Natural Language Processing, Object Oriented Programming, Programming Abstractions, Software Engineering, Systems Fundamentals
- Women in STEM & Engineering (WISE) Honors Program, Theta Tau Professional Engineering Fraternity

## RELATED SKILLS

- Programming Languages: Java, Python, Kotlin, HTML, CSS, JavaScript, C++, C, MIPS Assembly
- Other: Spring Boot, Spring WebFlux, React, Express.js, SQL, Figma, Tableau, Office 365