

# Melody Yu

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## EDUCATION

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### Northeastern University

*Honors B.S. in Computer Science and Philosophy*

GPA: 4.0/4.0

*Expected May 2026*

**Coursework** Object Oriented Design, Algorithms & Data, Database Design, Principles of Data Science

**Activities** Honors Living Learning Assistant, Generate, NEU Interfaith Retreat Leadership, Veritas Forum, PPE Club

## TECHNICAL SKILLS

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**Languages:** Java, Typescript, Python, Swift, Go, C++, Kotlin, SQL (NoSQL, PostgreSQL)

**Frameworks/Libraries:** React, React Native, TailwindCSS, Fiber, Flask, FastAPI, MQTT, HTTP, OpenAI API

**Tools:** Git, Docker, Jenkins, Maven, Google Firestore, Google Cloud Run, Figma, Jira

## EXPERIENCE

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### Babel Street – *Software Engineering Co-op*

July 2024 – December 2024

- Designed and delivered a Japanese date-parsing module supporting post-1873 era formatting, successfully integrated into the SDK's production release.
- Modernized legacy multilingual name-matching code from C++ to Java, enhancing system performance, maintainability, and scalability.
- Boosted tokenization speed by 5% with a non-regex solution in name-matching algorithms.

### Plural Connections Group – *Engineering Research Assistant*

January 2024 – Present

- Co-authored an EMNLP-accepted paper on computational models for intellectual humility in online discourse.
- Developed Python-based NLP pipelines using OpenAI GPT API for automated Reddit post labeling.
- Evaluated model performance through comparative analyses with human evaluations, using Cohen's kappa to measure interrater reliability and optimize NLP systems.

### Generate Product Development – *Project Lead, Software Engineer*

September 2023 - Present

- Leading an 13-member team of engineers and designers through development of the Dearly mobile app, a accessibility-focused platform designed to help families stay intimately connected across generations.
- Collaborating with external clients and internal stakeholders to define project scope and minimum viable product
- Promoting a culture of continuous learning through code reviews, optimized git workflows, and proactive communication styles, enhancing team collaboration and code quality.

### Northeastern University – *CS Fundamentals Teaching Assistant*

January 2023 – December 2023

- Led weekly student lab meetings as head TA, instructing in and reinforcing programming skills using Racket.
- Supported 150+ students in office hours for the newly piloted introductory programming course in Kotlin.

## PROJECTS

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### dayloom – *Swift, Python, FastAPI, Raspberry Pi, IoT, Firestore, OpenAI API*

October 2024 – Present

- Developed an iOS app to manage gratitude journaling, device control, and automated routines with real-time updates through a Firestore database.
- Engineering a Python-based IoT hub on Raspberry Pi, using MQTT to manage smart devices.
- Integrating voice recognition and OpenAI GPT to capture gratitude entries, analyze journal insights, and promote hands-free interaction.

### 3Stones – *React Native, Go, PostgreSQL, Supabase, Plaid*

September 2024 – December 2024

- Engineered RESTful API endpoints to power user authentication, onboarding, and account management, enabling a seamless experience for 3Stones' real estate crowdfunding platform.
- Implemented the login and signup flow in React Native, integrating Supabase and Plaid to ensure secure account setup and streamlined access to investment opportunities.

### Rallify – *MySQL, Python, Flask, Streamlit, Docker*

May 2024 - June 2024

- Built a containerized full-stack platform with a Flask API, MySQL database, and Streamlit frontend, enabling activists and journalists to organize protests and access actionable insights.
- Designed scalable database models and backend endpoints to manage protest data, user content, and analytics.
- Developed machine learning models for linear regression and k-means clustering, delivering predictive insights and trend analysis for protests.