

# Gulbadam Rejepova

Chicago, IL | rejepovagulbadam@gmail.com

[www.linkedin.com/in/gee-rjpa](https://www.linkedin.com/in/gee-rjpa) | [github.com/gulbadam95](https://github.com/gulbadam95) | [gulbadam95.github.io/rejepovagulbadam](https://gulbadam95.github.io/rejepovagulbadam)

## EDUCATION

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### University of Illinois Chicago (UIC)

Expected: May 2026

*Bachelor of Science in Computer Engineering | Minor: Computer Science | Concentration: Software Engineering*

**Relevant Coursework:** Data Structures & Algorithms, Software Engineering, Software Design, Machine Learning, Computer Organization, Computer Architecture, VLSI Design, Circuit Analysis, Digital Logic Design, Embedded Systems, Electronics.

## SKILLS

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**Programming Languages:** C, C++, Java, Python, JavaScript, HTML, CSS, Swift, ARMv7/MIPS Assembly, Verilog.

**Technical Skills:** Full Stack & UI/UX Web Development (React, Next.js, Java Spring Boot, Node.js, Express.js, Firebase, Figma), Embedded Systems, Software Engineering, Data Structures & Algorithms, Frontend Development, Backend Development, VLSI Design, Digital & Analog Circuit Design.

**Libraries & Tools:** PyTorch, NumPy, Pandas, Git/GitHub, VS Code, Xcode, PyCharm, Google Colab, MATLAB, LTspice, Cadence Virtuoso

## EXPERIENCE

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### University of Illinois Chicago - Chicago, IL

August 2024 - Present

*Teaching Assistant*

- Led weekly labs and office hours for 35+ students, reinforcing C/C++ fundamentals, control structures, modularity, and debugging skills for application development, leading to a 12% increase in average lab performance.
- Facilitating learning of web development concepts, including HTML and CSS, by designing practical assignments and collaborative projects that improve student comprehension.

### Networking Research Lab - Chicago, IL

June 2024 - August 2024

*Summer Research Intern*

- Improved neural network accuracy by 10% using custom gradient descent and loss function optimization in PyTorch, tailored for decentralized data settings.
- Developed distributed training algorithms in Python that balanced local and global model updates, reducing communication overhead and improving scalability across nodes.

### Hadia Media - Minneapolis, MN

June 2022 - September 2022

*Web Developer & UI/UX Designer Intern*

- Boosted small business website traffic by 20% on average by creating responsive, user-friendly websites tailored to client needs in retail and service industries; examples include [hadiamedia.com](https://hadiamedia.com) and [umisboutique.com](https://umisboutique.com).
- Delivered functional, on-brand web experiences by translating detailed client requirements into intuitive UI/UX designs and coordinating closely with developers and project managers to ensure timely and high-quality work.

## PROJECTS

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### Kenji | Navigation App (iOS, Swift, SwiftUI)

- Designed and implemented an iOS navigation app using Swift that displays real-time traffic updates and hazard notifications.
- Developed and integrated route optimization algorithms using Dijkstra's algorithm, improving estimated arrival time accuracy.
- Enabled cross-device data syncing via Firebase, allowing user-reported events and traffic alerts to update in real time.

### Tetris Game (Python) + Tiva C Microcontroller (C, Python, VS Code, CCS)

- Developed real-time, embedded firmware for a Tiva C Microcontroller (in C), serving as a custom game controller. Implemented responsive serial communication (UART) achieving sub-50ms latency for physical interaction.
- Built a Tetris game in Python with Pygame, featuring smooth animations and dynamic scoring.

### OutlookSpark | Hackathon Project

- Developed a Chrome extension that enhances the Outlook web interface with a cleaner, more user-friendly design.
- Integrated GPT-3.5 via the OpenAI API to automatically sort emails by urgency, topic, and sender type, making inboxes easier to manage.
- Added features like smart filters and quick-reply suggestions to help users stay organized and respond faster.