# Gulbadam Rejepova

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## EDUCATION

**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

**Programming Languages:** C, C++, Java, Python, GO (Golang), 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

**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 and umisboutiquellc.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

**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.