# Nicholas Brezinski

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## Education

**Akamonkai Japanese Language School** — Tokyo, Japan
*Japanese Language Proficiency Test N1 Certification* — *Expected Graduation March 2027*
**University of North Carolina at Charlotte** — Charlotte, NC
*Bachelor of Computer Science, Minor in Japanese Studies* — *Aug 2021 – May 2025*

## Projects

**DropMap** — 2026 - Present
*Optimization & Simulation Project*

- Built a physics-based simulation and implemented algorithmic search to compute optimal jump timing/route decisions (minimizing total travel time).
- Average 6.55 seconds of travel time saved over 87,281 instances of iterative testing.
- Documented methodology and results in a reproducible repository with clear inputs/outputs and iteration notes.

**BetaBreak (Community App for Climbers)**
*Full-stack application concept — TypeScript/React/Next.js, Database-backed features* — *2025*

- Designing an app for climbers to interact with their home gym remotely: view gym hold layout, receive announcements, join groups, chat, and track local rankings.
- Emphasis on scalable app structure: authentication-ready flows, data modeling, and modular UI components for rapid iteration.

**Climbing-Analysis (Computer Vision Motion Analysis)**
*Python, MediaPipe/OpenCV* — *2025*

- Built a computer-vision prototype to compare movement between climbing attempts using pose/landmark tracking.
- Generated structured outputs for analysis (e.g., movement consistency and timing comparisons) to support coaching-style feedback loops.

**Remote File Viewer (Networking/Systems Learning Project)**
*Go — client/server fundamentals, routing, tunneling concepts* — *2024*

- Implemented a small Go project to practice server architecture and networked file viewing workflows.
- Focused on reliability basics: input validation, clear error handling, and repeatable testing during iteration.

**LanGAPP (Real-Time Voice to Voice Translation App)**
*Full-stack — Python, TypeScript, Speech-to-Text, Natural Language Processing* — *2023*

- Built an end-to-end voice translation pipeline that translates and produces audio in Japanese from English speech.
- Designed backend APIs for audio processing and low-latency request handling; returned structured responses for transcript/translation/metadata.
- Implemented asynchronous flow control and error handling to keep the experience stable under variable network and audio conditions.
- Structured the project for iteration (clear module boundaries, reproducible runs, and documentation for setup and testing).

## Technical Skills

**TypeScript/JavaScript, Python, Java, C#, SQL, React, Next.js, HTML/CSS, REST APIs, Node.js, OpenCV, MediaPipe, NumPy/Pandas, PostgreSQL, MySQL, SQLite, Docker, Git/GitHub, SupaBase, FireBase**

## Experience

**Independent Software Engineer (Personal Projects)** — Remote
*Full Stack, Prototyping, and Systems Fundamentals* — *2022 – Present*
Built multiple end-to-end software projects published on GitHub, prioritizing clear requirements, iterative implementation, and maintainable structure.

Regularly work across the stack (UI + APIs + data) and adapt quickly to new tools as project constraints change.

Collaborate via written documentation (READMEs/specs) and version control practices suitable for team workflows.

**International Student Mentor / Event Assistant** — Charlotte, NC
*Cross-cultural support, logistics coordination, communication* — *Aug 2024 – May 2025*
Supported Japanese international students during university culture events; improved onboarding experience through proactive communication and coordination.

Strengthened stakeholder communication skills across language/culture differences (useful in global engineering teams).