

# JOHN (SEUNGJIN) OH

U.S. citizen searching for opportunities to satisfy my curiosity and passion for problem-solving.

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## Education

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### Carnegie Mellon University

Pittsburgh, PA

*Bachelors of Science in Computer Science*

MAY 2026

- **Selected Coursework:** Functional Programming, Honors Matrix Theory, Computational Microeconomics, Theoretical Computer Science, Probability Theory

### Concord Academy

Concord, MA

*Highschool Diploma, 3.95 GPA*

MAY 2023

- **Awards:** AIME Qualification, USACO Gold, Scholastic Writing Awards Gold Medalist
- **Selected Coursework:** Set Theory, Topology, Machine Learning, Graphic Design

## Technical Skills

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**Languages/Frameworks/Technologies:** C, JavaScript, TypeScript, Python, Go, Django, Flask, AWS, GCP, GraphQL, HTML, CSS, Node.js, React.js, Next.js, SQL, Docker, Linux, Git, Bash, Robot Framework, SML, Tableau

**Spoken Languages:** English (native), Korean (fluent), Spanish (conversational)

**Other:** Oracle VM VirtualBox, Figma, Adobe Illustrator, Photoshop, Premiere Pro, Blender, Latex, Excel

## Experience

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### Alstom (formerly Bombardier Transportation)

Pittsburgh, Pennsylvania

*Automatic Train Control Software Intern (in ex-BT team)*

May 2024 - PRESENT

- **Standardized** variable management for train simulation configurations, streamlining version control among teams worldwide and massively reducing the time spent on tedious configurations; currently working to also integrate the solution into CI/CD pipeline
- **Implemented** computer vision solutions using OpenCV, Python, and Robot Framework to help the system integration team with automated testing
- **Developing** an AI application that leverages LLM agents and tool use to allow users to analyze complex log data using natural language. Researching the use of small local LLMs in order to make the application accessible to everyday hardware.

### Whee School Inc.

Philadelphia, Pennsylvania

*Software Engineer*

Dec 2023 - May 2024

- **Assisted** a partial migration of the landing website and LMS (learning management system) of Whee School from HTML/CSS/JavaScript to modern Next.js/Tailwind/TypeScript with better UI/UX design and code maintainability
- **Managed** relevant AWS technologies, including CodePipeline, RDS, IAM, and ECS
- **Developed** a new service that incorporated OpenAI API and advanced prompting techniques to help teachers analyze their students' writing

### Dr. Michael Siegel's Research Team at Tufts School of Medicine

Boston, MA

*Researcher*

JUN 2022 - OCT 2022

- **Co-author** of three papers about devising and analyzing a novel measure of structural inequality; two published in Journal of Racial and Ethnic Health Disparities (Impact Factor: 3.8), one published in Journal of the National Medical Association (IF: 2.7)
- **Sanitized** and organized Excel spreadsheets; **visualized** large datasets using GeoJSON

## Personal Projects

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### TextualLearner: Convert Educational Videos Into Articles

OCT 2024 - PRESENT

- **Learned** Go, Vertex AI, Google Cloud, and GraphQL for the first time to develop a website that turns educational videos into structured multimodal articles with source timestamps and visual supplements
- **Used** Google Gemini's structured outputs and an AI pipeline to generate safe and valid markdown + HTML, then rendered content on the frontend dynamically
- **Future plans** include adding data streaming, improving performance by using prompt caching, supporting LaTeX, experimenting with and benchmarking different VLMs, and implementing user history