

# JOSHUA HAN

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## EDUCATION

**Rice University, Houston TX** Aug 2024 – Dec 2025 (Expected)  
**Professional Master of Computer Science, Artificial Intelligence Specialization**

**University of Toronto** May 2023  
**Honor's Bachelor of Science, Computer Science**  
**Dean's List Scholar, GPA: 3.53**  
**Key Courses:** computer graphics, image recognition, machine learning, operating systems, databases, web development, robotics

## TECHNICAL SKILLS

AI/ML: Pytorch, Tensorflow, Huggingface, Programming: Python, C++, JavaScript, R and Java, Data Science: SciPy, NumPy, Pandas and Seaborn, Web: React.js, Angular.js, Node.js, Express and MongoDB, Other: LaTeX, SQL, Git and Excel

## EXPERIENCES

**Research Assistant, Hong Kong Polytechnic University, Faculty of Business** Aug 2023 – Jun 2024

- Researched machine learning techniques to predict ship deficiencies for port state control safety inspections.
- Developed a neural network model that infuses maritime domain knowledge and enforces monotonicity to improve prediction efficacy.
- Parsed and cleaned 10,000+ financial reports for NLP project.

**Full-Stack Developer, Nanoleaf, Toronto ON** May 2021 – Aug 2022

- Enhanced Nanoleaf's desktop app, benefiting over 5000 Windows and Mac customers. Improvements included: dark mode, internationalization, auto-update, and UI redesign. Performed independent R&D in key parts of products.
- Maintained full stack of Nanoleaf's forum website. Site has hundreds of active users. Implemented private forum spaces, increasing beta user engagement by 20% and introduced new administrative features for efficient bug tracking.
- Collaborated cross-functionally with the Embedded, UX, and QA teams to ensure seamless product development and integration for IoT lighting products.

**Research UI Designer, University of Toronto, Department of Linguistic** Jan – May 2020

- Collaborated with Prof. Nathan Sanders on linguistic theory studies, especially on innovative pedagogy, such as gamification, project-based learning, and creative/artistic approaches in STEM.
- Designed an online quiz web app for students to practice phonology problem sets and for professors to generate questions and track students' learning.
- Used the MERN (MongoDB, Express, React, Node) stack.

**Research Software Developer, EidoSearch, Toronto ON** Jun – Aug 2019

- Developed a Java web app to download daily stock and futures data using DTN's IQFeed API to analyze trends in Big Data and make intelligent investment predictions.
- Developed an app to query high frequency historical data and real-time data on US and Canadian equities.
- Researched signal information processing algorithms for the development of EidoSearch's products.

## COMPETITIONS & PROJECTS

**LTSM-bundle Research Project, Rice University** 2024 - (Ongoing)

- Implementing advanced pretraining and data processing techniques to optimize training efficiency and performance of Large Time-Series Models.

**Chengdu80 Global Financial Product Design and R&D competition | *Most Innovative*** 2019

- Competed against 80+ programmers from top global universities.
- Developed a social networking site for researchers. Site uses machine learning to find the most relevant research papers.
- Used graphing library Cytoscape.js. Programmed in React, Node, Django.