rjaychen.github.io

RYAN J. CHEN

Software Engineer, ECE/CS

About Me!

I am an engineer that loves solving problems that draw on our creativity, push our knowledge of the world, and make us better people.

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Languages

- English, Chinese (nat.)
- Japanese, German (func.)

Languages (for SWEs)

- Python, C++, C#
- Swift, SQL, Java

Expertise / Interests

- Geometric Modeling
- Computational Geometry
- Mixed Reality
- Human Computer Interaction
- NLP + Machine Learning
- Tests, Automation, CI/CD
- Biomedical Applications
- Language Acquisition and Education

Experience

3D Software Development Engineer in Test

Align Technology (July 2025 - Present)

- **Product R&D.** Built automated testing infrastructure for 3D medical device fabrication software, enabling multiple product releases via collaboration with biomedical stakeholders. Debugged C++ backend code and solved complex 3D geometry problems. Managed AWS cloud operations and CI/CD testing infrastructure. Spearheaded ML for Software Quality initiative in the R&D division.

VR/AR Researcher + Developer

I³T Lab @ Duke University (Sep. 2022 - May 2025)

Projects

2D/3D Game Engine

Expanded upon a 2D graphics Engine based on the Google's Skia engine using Swift and Metal to support 3D rendering flows and iOS/macOS. Development has led to multiple rendering passes

Text Style Transfer Model

Developed a text-style transfer ML model that combines NLP concepts with Deep Learning to transform text corpora into styles of various internet subcultures (e.g. Reddit, TikTok)

Language Learning Game

Building a game to progressively teach languages (for now Chinese, Spanish) to new learners via real-world speech scenarios.

Education

Duke University, Pratt School of Engineering

Bachelor in Electrical and Computer Engineering (2021 - 2025)
Minor: Japanese
Concentrations: Machine Learning, Signal Processing, HCI

Tools and Skills

Frameworks/Libraries: PyTorch, TensorFlow, scikit-learn, NumPy, SciPy, spaCy, NLTK, Transformers (HuggingFace), Flask, FastAPI, SwiftUI, pytest, Selenium, Node.js, Flask
Tools: AWS (boto3), Docker, Kubernetes, Git, REST APIs
Domains: Natural Language Processing, Machine Learning, Computer Graphics, Data Processing