

# Avery Qian

(Legal name: Hangkai Qian)

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## EDUCATION

**New York University** Bachelor in Computer Science (Major GPA: 3.86/4.0)

Sep. 2019 – May. 2023

\*Minor in Interactive Media Arts and Mathematics

**University of Illinois Urbana-Champaign** Master in Computer Science

Jan. 2024 – Jun. 2025

**Relevant Coursework:** Computer Vision (Graduates), Computer Networking, Machine Learning, Applied Internet Technology, Databases, Operating Systems, Natural Language Processing

## SKILLS

- **Technical:**
  - Web Development: Proficient in JavaScript (node.js, express.js, react.js, next.js), MongoDB, Python Flask, MySQL, and front-end libraries (Three.js, p5.js, Tailwind.css)
  - Machine Learning: Experienced in Computer Vision (CNN, ResNet, etc.) and Natural Language Processing (word embeddings, sequence modeling, Transformers, GPT, BERT)
- **Other Skills:** Proficient in Python (PyTorch, TensorFlow, HuggingFace, matplotlib, pandas), C, and Git Flow
- **Language:** English (professional), Mandarin (native)

## WORK EXPERIENCE

### Orka Labs Inc.

Chicago, IL

Software Development Intern (Full-stack)

July. 2023 – Present

- Maintained key functionalities of the official [Orka official website](#) v2, including the Hearing Aids Blog and Support Center pages. **Successfully resolved over 50 bugs and issues**
- **Refactored over 2400 lines of disorganized legacy codes** and implemented ESLint files that automatically inspect the code every time a Pull Request is committed, correcting **over 6000 errors among 10484 errors**
- Managed Amazon Web Services for website deployment and databases, optimized website load time by 10%
- Related Skills: *Next.js, React.js, Material UI(MUI), AWS (S2, Cloudfront, EC2, Lightsail), postgresQL, Git*

### Yonyou Software Co., Ltd.

Beijing, China

Software Development Intern (Front-end)

June. 2022 – August. 2022

- Migrated and integrated **over 25 CPAS 5.2 powerful features** into the new CPAS 6.0 system
- **Independently completed core project functionalities** including mini-programs (e.g., OCR/ASR recognition)
- Related Skills: *React.js, DevExpress, Ant Design, umi.js, Git*

## RESEARCH & PROJECTS

### New York University, Computer Science Department

New York, NY

Researcher, Piano Performance Transfer

Dec.2021 – Present

Supervised by Professor Gus Xia at NYU Shanghai, our research focuses on transferring performance between different pianos using MIDI and Python, with a deep understanding of acoustics.

- Developed a simulator algorithm and designed psychoacoustic experiments to **explore 15 adults' perception of loudness** in 88 pitches of piano on 128 MIDI velocities.
- Applied PyTorch machine learning model for equal-loudness contours (ELC) derivation. Achieved an accuracy of **96.89% in Environment I and 89.76% in Environment II**. Outperformed State-of-Art model by 1%.
- Co-authored a paper **accepted by ISMIR 2022**, and currently using deep learning methodologies further.
- Related Skills: *Python MIDI processing, PyTorch, matplotlib, Research and Experiments Conducting*

### Meditation Community

Mar. 2022 – Present

- Developed an open-source project for meditation and communication using the MERN stack (MongoDB, Express.js, React.js, Node.js) and Tailwind.css. Features include user authentication, meditation scoring, and blogging. Deployed on Amazon EC2 [GitHub Link](#)
- The platform has attracted over **56 registered users and experienced over 800 visits in total**, with a peak of 40 visitors in a single day. Currently down for maintenance
- Related Skills: *React.js, Express.js, Tailwind.css, MongoDB, Node.js, AWS (EC2)*

## PUBLICATIONS

Yang Qu, Yutian Qin, Lecheng Chao, **Hangkai Qian**, Ziyu Wang, and Gus Xia, "Modeling Perceptual Loudness of Piano Tone", Accepted to ISMIR 2022. ([Arxiv link](#))