Ran (Henry) Li

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EDUCATION

Columbia University, *The Fu Foundation School of Engineering and Applied Sciences* New York, NY
Bachelor of Science in Computer Science | GPA Pending Expected May 2026
Relevant Coursework: Advanced Programming in C, Computer Systems, Databases

Washington University in St. Louis, *McKelvey School of Engineering* St. Louis, MO
Transferred to Columbia | GPA 3.97, Dean's List 2023 August 2022 – May 2023
Relevant Coursework: Data Structures and Algorithms, Artificial Intelligence, Linear Algebra

SKILLS

Languages: Python, Java, JavaScript, C/C++, SQL, HTML/CSS, Bash
Machine Learning: PyTorch, NumPy, Pandas, Scikit-Learn, Matplotlib, OpenCV
Cloud/DevOps: Unix/Linux, Amazon Web Services, Git, GitHub, Docker, JUnit
Web/Database: React, Express.js, Node.js, REST API, MySQL, PostgreSQL, MongoDB, Neo4j

WORK EXPERIENCE

Computational Imaging Group, Washington Univ. St. Louis, MO
Research Assistant September 2022 – May 2023
- Applied the diffusion model (DDPM) to under-sampled multi-coil MRI reconstruction using PyTorch. Reported in monthly group meetings to professor Ulugbek Kamilov. Earned A+ in senior-level independent study.
- Implemented a mathematical model into the sampling algorithm and further enhanced PSNR metric by over 2dB.

Oppo Mobile Telecommunications Beijing, China
Research Intern March 2022 – August 2022
- Worked on Image Quality Assessment (IQA) for a reinforcement learning model for computational photography.
- Improved model accuracy and interpretability. Developed networks to produce saliency maps of optical distortions.

Blue Gate Capital New York, NY
Web Developer Intern September 2023 – Present
- Redesigning front-end functionalities and styles of the company website using HTML/CSS, JavaScript, and SQL.
- Administrating back-end AWS services including EC2, RDS, and S3 with a focus on cost optimization and security.

PROJECTS

Mobile AI & AIM 2022 Learned Smartphone ISP Challenge
- Collaborated with graduate students on image restoration. Presented model to ETH Zurich professor Andrey Ignatov.
- Earned highest metric score among over 100 teams. Publication available at: https://arxiv.org/abs/2211.03885.

Book My Vacation
- Implemented a dynamic web application for B&B rental and deployed it to public at https://app-to3i.onrender.com.
- Utilized Express framework, MongoDB database, Git version control, and REST API like MapBox and Cloudinary.

LEADERSHIP

Major League Hackathon St. Louis, MO
Team Leader October 2022
- Proposed and developed an AI model for credit card number recognition with PyTorch in collaboration with 3 peers.
- Achieved an accuracy of 99%, comparable to products of college seniors. Nominated for the best security hack prize.

FIRST Robotics Competition Hangzhou, China
Vice President of Engineering November 2021 – June 2022
- Delegated teammates' work to build a robot and compete in RCC Int'l Robotics Open. Ranked regional top 1.
- Coded the motion control and shooter functions using Java and optimized the trajectory control algorithm.