

Roy Huang

▸ ruoqiuhuang@gmail.com ▸ (608) 397-7178 ▸ github.com/RoyH11 ▸ linkedin.com/in/royhuang11

EDUCATION

University of Iowa

MS in Electrical and Computer Engineering; GPA: 3.80/4.0

Iowa City, IA

Dec. 2024

BS in Electrical and Computer Engineering; GPA: 3.51/4.0

Dec. 2023

- Concentration: Machine Learning
- Relevant Coursework: Deep Learning in Medical Imaging, Mathematics for Machine Learning, Applied Machine Learning, Medical Imaging Physics, Pattern Recognition, Modern Databases, Graph Algorithms and Combinatorial Optimization

WORK EXPERIENCE

Research Assistant – UT Southwestern Ophthalmology

Jan. 2025 – Present

- Developing deep learning applications in ophthalmic imaging under Professor Jui-Kai Wang *Dallas, TX*
- Data preprocessing, designing neural networks, image modality change, segmentation, research presentation

Research Assistant – UIOWA Ophthalmology

Sep. 2024 – Dec. 2024

- Developed an automated workflow for processing stereoscopic images for a VR platform *Iowa City, IA*
- Enhanced clinicians' and residents' ability to assess optic disc swelling

Teaching Assistant – UIOWA College of Engineering

Jan. 2023 – May 2024

- High Performance Computer Architecture, Communication Networks, Linear Systems I *Iowa City, IA*

Network Engineer Intern – Casey's General Store

May 2023 – Aug. 2023

- Troubleshooted fiber malfunctions, calculated subnet sizes, and analyzed network data *Ankeny, IA*
- Coordinated router/firewall store upgrade project for 35 new stores, communicated across different teams
- Gained insights into Agile development from shadowing software engineering team and supply chain IT team

PROJECTS

Lung CT Image Tumor Segmentation – Deep Learning in Medical Imaging

2024 Fall

- Achieved excellent results (0.8 Dice Score) in lung tumor segmentation with UNet architecture (PyTorch)
- Experimented various training techniques: data augmentation, automatic stoppage, learning rate scheduling
- Presented project in a classroom setting and created project reports

MRI Imaging Enhancement – Applied Machine Learning

2024 Spring

- Advanced MRI imaging technology by leveraging machine learning techniques (PyTorch)
- Implemented Model Based Deep Learning (arxiv.org/pdf/1712.02862) for supervised learning approach
- Implemented Diffusion Posterior Sampling (arxiv.org/abs/2209.14687) for unsupervised learning approach

Book Recommendation Web App – Modern Database

2023 Fall

- Built book recommendation web app (Flask) using Amazon Books dataset (212k+ books, 3M+ reviews)
- Recommends 5 books based on book title (MongoDB text score)
- Recommends 3 books based on similar users (Neo4j's graph capabilities)

LEADERSHIP & INVOLVEMENT

Fire Technician *UIOWA Housing & Dining* *2024*

Student Representative *Student Engagement Lunch with President Barbara Wilson* *2023*

Network Technician *UIOWA ITS* *2022 – 2023*

Piano Performer *Music Minor* *2021 – 2023*

Inclusion Agent *UIOWA College of Engineering Student Success* *2020 – 2022*

Construction Worker *Habitat for Humanity Rice County, MN* *2020*

Fundraiser *UIOWA Children's Hospital* *2019*