Roy Huang

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EDUCATION

University of Iowa   *Iowa City, IA*
MS in Electrical and Computer Engineering; GPA: 3.59/4.0   *Expected May 2025*
BS in Electrical and Computer Engineering; GPA: 3.51/4.0   *Dec. 2023*
- Concentration: Machine Learning
- Relevant Coursework: Applied Machine Learning, Pattern Recognition, Modern Databases, Vector Calculus, Graph Algorithms and Combinatorial Optimization, Linear Systems, Control Systems

SKILLS

Technical: Programming Languages (*Python, Java, C++*), Databases (*SQL, MongoDB, Neo4j, Redis*), Git
Machine Learning: Tools (*Scikit Learn, Pandas, NumPy*), Models (*CNN, Transformer*)
Languages: Chinese-English Translation, Chinese-Mandarin (*Native*), English (*Bilingual*), Spanish (*Novice*)

PROJECTS

MNIST Binary and Multi-Class Classification   *2023 Fall*
- Developed Python project for binary and multi-class classification tasks on MNIST dataset.
- For binary classification, implemented linear classifiers including Gaussian and logistic regression.
- For multi-class classification, utilized Gaussian multi-channel classifier and logistic regression with SoftMax.
- Achieved accurate classification results through evaluation on training, validation, and test datasets, and demonstrated the application of hyperparameter optimization techniques.

Book Recommendation Web App   *2023 Fall*
- Built a Flask book recommendation app using a large Amazon Books dataset (212k+ books, 3M+ reviews).
- Recommends 5 relevant books based on a book title search (MongoDB text score)
- Recommends 3 books based on similar user preferences after user log in (Neo4j's graph capabilities).
- Achieves relevant content discovery and personalized recommendations.

SaaS E-commerce Website   *2023 Fall*
- Built e-commerce website using Ruby on Rails framework, PostgreSQL database, Heroku for hosting.
- Integrated front-end features include product browsing, secure user accounts, and checkout.
- Managed back-end with product listings, inventory, order processing, secure data storage, and admin panel.
- Worked within a 5 people team, used Git for version control and Pivotal Tracker for agile project management.

WORK EXPERIENCE

Teaching Assistant – *UIOWA College of Engineering*   *Jan. 2023 – Present*
- 2024 (Spring) High Performance Computer Architecture   *Iowa City, IA*
- 2023 (Fall) Communication Networks, (Spring) Linear Systems I
- Led discussion sections, conducted grading, held office hours, and designed class projects.

Network Engineer Intern – *Casey's General Store*   *May 2023 – Aug. 2023*
- Troubleshoot 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.

LEADERSHIP & INVOLVEMENT

Student Leader, *Student Engagement Lunch with President Barbara Wilson*   *2023*
Piano Performer, *Music Minor*   *2021 – 2023*
Construction Worker, *Habitat for Humanity Rice County, MN*   *2020*
Fundraiser, *UIOWA Children's Hospital*   *2019*