

KOERNER GRAY-BUCHTA

Ann Arbor, MI | P: +1 616-826-9948 | koernerg@umich.edu

EDUCATION

UNIVERSITY OF MICHIGAN

Bachelor of Science in Computer Science

Cumulative GPA: 3.0/4.0

Coursework: Artificial Intelligence, Evolutionary Algorithms, Computer Vision, Robotics, Complex Systems, Computer Architecture, Data Structures and Algorithms

Ann Arbor, MI

April 2025

SKILLS

PROGRAMMING LANGUAGES & FRAMEWORKS

- Python [Django, Flask, Numpy, Scipy, Matplotlib, OpenCV, Pytorch, Transformers, Langchain, Llama Index, Crew AI]
- C/C++ [STL]
- Javascript [Vue.js, React, Typescript]
- Git version control, Windows and Linux development
- Docker
- AWS, GCP, Azure
- CUDA, Slurm

RESEARCH

- Computer Vision
- Data Science Visualization
- Transformers for Combinatorial Optimization
- LLMs
- Spiking Neural Networks
- Agents

WORK EXPERIENCE

ITS GEN AI SERVICES, UM INFORMATION & TECHNOLOGY SERVICES

Computer Consultant

Ann Arbor, MI

July 2023 - October 2023

- Helped build UM's groundbreaking native generative AI services with Langchain, Django, Vue.js, and Typescript
- Added tested front-end features tracked with Jira in collaboration with UX/UI designers and cybersecurity team members
- Used Playwright to add automated testing

IMAGE-GUIDED MEDICAL ROBOTICS LAB, UNIVERSITY OF MICHIGAN

Research Assistant, I

Ann Arbor, MI

Jan 2023 – Present

- Collaborated with graduate students and professors to create an intelligent, Robotically-aligned OCT scanning system
- Optimized the regularly-called path-planner/TSP solver function for a speed-up of 26%, contributing to the project's 5x greater frame rate than standard OCT systems
- Trained a Pytorch Transformers-based computer vision model on the University's Slurm cluster

IMRA AMERICA, INC

Production Engineer

Ann Arbor, MI

August 2022 - December 2022

- Built and tested hundreds of chirped pulse amplification components for femtosecond lasers used in medical devices
- Collaborated with IMRA's team of optical physicists, engineers, and technicians to boost production and document processes

UNIVERSITY PROJECTS

FOOD DONATION RAG BOT

January 2024

- Built a prototype Llama-based Retrieval-Augmented Generation system to help address local food insecurity with Flask, Transformers, and Streamlit

CALL LOG QUERY SYSTEM

October 2023

- Built a system for querying call logs to retrieve the latest product information. Used Langchain, Cohere and the GPT API, and Streamlit