KOERNER GRAY-BUCHTA

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

EDUCATION

UNIVERSITY OF MICHIGAN Ann Arbor, MI
Bachelor of Science in Computer Science April 2025
Cumulative GPA: 3.0/4.0
Coursework: Introductory Programming, Data Structures and Algorithms, Evolutionary Algorithms, Complex Systems

SKILLS

PROGRAMMING LANGUAGES & FRAMEWORKS
- Python [Flask, Django, Numpy, Scipy, Matplotlib, Pandas, Pytorch]
- C/C++[STL]
- Javascript [React, jQuery, bootstrap]
- Git version control, Windows and Linux development
- VS Code, Visual Studio, PyCharm

RESEARCH
- Optimization techniques
- Visual communication of scientific data
- Collaboration on design
- Interfacing with hardware components
- Data science in Colab
- Scientific journal presentations

WORK EXPERIENCE

ITS GEN AI SERVICES, UM INFORMATION & TECHNOLOGY SERVICES Ann Arbor, MI
Computer Consultant July 2023 - Present
- Helped build UM's groundbreaking native generative AI services with langchain, django, and vue.js
- Added tested front-end features tracked with Jira in collaboration with UX/UI designers and cybersecurity team members

IMAGE-GUIDED MEDICAL ROBOTICS LAB, UNIVERSITY OF MICHIGAN Ann Arbor, MI
Research Assistant, I Jan 2023 – Present
- Collaborated with graduate students and professors to create an intelligent, Robotically-aligned OCT scanning system
- Created 3D visualizations with matplotlib in Python to communicate experiment results for a computer vision project
- 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
- Used Large Language Models like the GPT API with the langchain Python library to build scripts for streamlining code-understanding

IMRA AMERICA, INC Ann Arbor, MI
Production Engineer 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

PERSONAL WEBSITE June 2023
- Deployed a personal site using GitHub pages, making use of Javascript, HTML and CSS, npm, and Git

AI-BASED PDF SUMMARIZER March 2023
- Created a google Colab script that loads a PDF and summarizes it with a transformer neural network

MUSICAL CELLULAR AUTOMATA SIMULATOR Jan 2022
- Designed and built an algorithmic composition script based on Conway's 'Game of Life' cellular automaton model using creative coding libraries for Javascript (p5Gibber) and Flask