Samuel Wales-McGrath

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EDUCATION

The Ohio State University | Columbus, Ohio

B.S. in Honors Computer Science Engineering **May 2027**

Relevant Courses: Software 1(Java Components), Calculus 3, AP Computer Science A, AP Calculus AB/BC, AP Statistics

TECHNICAL SKILLS

Programming Languages: Python (Experienced), JavaScript (Next/Node) (Experienced), HTML/CSS (Intermediate), SQL (Basic) R (Basic)
Frameworks & Technologies: Django/Flask (Intermediate), TensorFlow (Intermediate), NumPy (Intermediate), Pandas (Basic), FireBase (Intermediate), Git (Basic), Docker (Basic), BootStrap (Basic)

PROFESSIONAL EXPERIENCE

M2 Global Services | Backend Developer Intern | Cleveland **June 2024 - July 2024**

- Collaborated on backend services at a freelance IT consultancy company for a client feedback portal using Django and Firebase, including secure user authentication, feedback submission, and data retrieval to enhance client communication and satisfaction.
- Designed a Firebase database schema to manage client feedback and user data, creating robust API endpoints to support real-time updates and feedback analysis, driving insights for service improvement.

Pediatric Brain Cancer Research | SEO Intern | Case Western Reserve **June 2023 - August 2023**

- Conducted and analyzed colony-forming assays to evaluate the effectiveness of CDDO-2P-Im as a radiosensitizer in Diffuse Intrinsic Pontine Glioma (DIPG) cells, leading to significant findings in enhanced radiation therapy.
- Authored a comprehensive manuscript detailing research methods and results, contributing to future in vivo studies and personalized treatment strategies.
- Awarded the Scientific Advancement Award for outstanding research on improving pediatric DIPG treatment outcomes and demonstrating such at the capstone poster presentation.

PROJECTS

Computer Vision Form Analysis | Personal Project **July 2024 - Present**

- Developed an AI model using Python, MediaPipe, and YOLO to enhance soccer players' skills by analyzing shooting form and providing actionable feedback.
- Addressed overfitting by expanding labeled data and optimizing the model with TensorFlow on varied video footage.
- Currently working to build a full-stack application with React and Django to integrate the model and support user interaction. Includes user account creation and login utilizing RESTful APIs and JWT authentication.

Full-Stack Daily Rehabilitation Tracker | Personal Project **December 2023 - February 2024**

- Built a rehabilitation tracking app using Next.js, Node.js, and Firebase, allowing users to log daily progress and identify trends over time.
- Overcame challenges with user authentication by deepening knowledge of Firebase, successfully implementing login and signup functionality.
- Developed a responsive UI with Tailwind CSS and deployed the app on Netlify, ensuring a seamless user experience across devices.

EXTRACURRICULAR INVOLVEMENT

Perception Algorithm Developer | Buckeye Auto Drive Team **August 2024 - Present**

- Developed 2D/3D detection, classification, and sensor fusion algorithms to enhance autonomous vehicle perception, including HD mapping and V2X communication.
- Implemented tracking, lane detection, and LiDAR transformation algorithms, while documenting processes and creating training materials.