Tanzim Mashrur

Robotics and Computer Vision Researcher

Passionate about learning new technologies and undertaking projects that encourage technical creativity

- ★ tmashrur@uoguelph.ca
- Prampton, Ontario, Canada
- github.com/tanzimm

416-723-0550

in linkedin.com/in/tanzimm

EDUCATION

Master of Applied Science, Rehabilitation Robotics

University of Guelph

05/2019 - 04/2021

Guelph, Ontario, Canada

Relevant Information:

- Courses: Machine learning, Image Processing, and Robotic Systems
- Area of research: Rehabilitation Robotics
- Thesis: Development and Functional Analysis of the Assistive Feeding Robot

WORK EXPERIENCE

Robotics and Computer Vision Researcher University of Guelph

05/2019 - 04/2021

The thesis project involved the design and development of an **Assistive** Feeding Robot for disabled individuals

Achievements

- Created a novel system design that emphasized generalized functionality and seamless user experience.
- **Formulated and led** the research team, which provided direction for the overall project.
- System prototype exceeded supervisor's expectations, its functionality surpassed the original goals.
- Conducted a live demonstration of the prototype to industry professionals, which received high praise.
- From validation, the system displayed minimal error and high success rate.
- Working to publish journal paper

Contact: Hussein Abdullah - habdulla@uoguelph.ca

Embedded Software Developer The Robotics Institute of Guelph

01/2019 - 04/2019

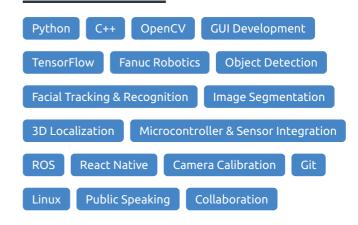
Primary **Embedded Developer** for a device that provides assistance to the elderly

Achievements

- Developed an algorithm for ensuring safety using thermal readings, it was both fast and reliable.
- Created a Bluetooth Gateway for mobile app and database communication using WiFi and BLE.
- **Helped improve** the system website and mobile app.
- Accelerated overall development process, which enabled for faster deployment.

Contact: Hussein Abdullah - habdulla@uoguelph.ca

COMPETENCIES



RELEVANT PROJECTS

Assistive Feeding Robot (05/2019 - 04/2021)

- Comprised of 6 DOF Fanuc Robot that was programmed in Python and leveraged Multithreading.
- Automatically acquires food via fork, spoon, or grasping which is then brought to user's face.
- Detects food using object detection, Faster RCNN was implemented via TensorFlow.
- Facial recognition and tracking implemented via DLib & OpenCV.
- 3D Localization done through Intel RealSense Camera.
- Implements real-time safety system that continuously tracks user's position.
- Smart inventory algorithm was created for automatically detecting changes in feeding area.
- Minimalistic GUI was implemented with React Native and a Flask backend.
- Algorithm was created for automatic passive training for object detection model.

LANGUAGES

English

Native or Bilingual Proficiency

INTERESTS

Artificial Intelligence Computer Vision

Embedded Development IOT Systems Robotics

Home Automation