Ameer Helmi

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SUMMARY

Skilled Ph.D. in Robotics with 5+ years of experience in building, testing, and integrating robots and an additional 5+ years of experience in working with healthcare software. Expert in designing and implementing protocols and mechanisms for healthcare devices and presenting technical details to wide customer bases.

EDUCATION

Ph.D., Robotics, Oregon State University, Corvallis, OR 09/2019 – 06/2024
Advisor: Dr. Naomi T. Fitter | GPA: 3.8
Dissertation: Mediating Child Physical Activity with Assistive Robots

B.S., **Biomedical Engineering**, University of Illinois at Chicago, Chicago, IL 08/2009 – 06/2013
Minor: Mathematics | GPA: 3.7

SKILLS AND CERTIFICATIONS

Programming: Robot Operating System (ROS), Python, MATLAB, Linux, Arduino, Git, Microsoft Suite, Scikit-learn, PyTorch, SQL.
Hardware: 3D Printing, CAD, Medical Devices
Research: Machine Learning, Human-Robot Interaction, Assistive Technology, Computer Vision
Certification: University of Washington Professional & Continuing Education C# and ASP.Net

PROFESSIONAL EXPERIENCE

Oregon State University, Corvallis OR 09/2019 – 08/2024
Graduate Research Assistant

- Conducted 5 multi-month child-robot interaction studies in collaboration with physical therapists, studying the effects of an assistive robot on improving children's levels of physical activity.
- Crafted 5 assistive robot systems using a human-centered design process, integrating a TurtleBot2 base, Python, NumPy, LIDAR, ROS, and 3D-printed multi-sensory hardware.
- Crafted affective computing machine learning models using a cost-effective thermal camera for automatically detecting affect changes in children with disabilities.

Oregon State University, Corvallis OR 09/2019 – 06/2020
Teaching Assistant

- Collaborated with teacher to develop 6 ROS2 assignments for graduate Introduction to Robotics course with 20 students.
- Demonstrated consistent and professional correspondence with students for undergraduate Intermediate Dynamics course with 100 students.
- Adapted course material for virtual teaching within one week and provided consistent feedback for undergraduate Introduction to Python course with 80 students.

Epic Systems Boost, Seattle, WA 08/2015 – 12/2018

Technical Consultant

- Spearheaded development of quality control application workflows for electronic health record system at 4 organizations, individualizing workflows by customer regulations and protocols.
- Directed a cross-functional team of 8 analysts as application manager in implementing multi-million-dollar electronic health record system at Yale New Haven Health.
- Managed a team of 5 analysts to develop and build unique EHR workflows at the University of California, Los Angeles, guiding team on workflow design and focusing on customer needs.

Epic Systems, Verona, WI 06/2013 – 08/2015

Technical Solutions Engineer

- Consistently delivered robust and rapid solutions for 200+ system issue logs as technical engineer for multiple organizations, including first Epic UK customer, Cambridge University Hospital.
- Worked directly with C-Suite executives during customer escalation, resolving critical system issues while preserving software integrity.
- Improved CUH laboratory result efficiency by 20% by developing one-of-a-kind integrated system workflow.
- Developed multiple software enhancements and programmed resolutions for 22 system bugs, maintaining system integrity and compliance with strict QA testing.

Hospira, Lake Forest, IL 01/2012 - 05/2012

Engineering Intern

- Conducted rigorous impact testing and risk analysis on Symbiq infusion pumps, contributing to improved product reliability and patient safety.
- Designed and tested a new shroud cover for Symbiq infusion pumps, utilizing SolidWorks and 3D printing to enhance product durability and performance.
- Collaborated with quality and manufacturing teams to implement corrective designs, ensuring compliance with industry standards and regulatory requirements.

University of Illinois at Chicago, Chicago, IL 08/2009 – 06/2013

Undergraduate Research Assistant

- Created novel design of a fully automated medical glaucoma diagnosis device with MATLAB and Arduino.
- Developed integrated LabVIEW GUI for medical Capnograph instrument used in a cancer detection study.