Ceridwen Hopely

Robotics & Automation Engineer

About Me

With degrees in Robotics and Mechanical Engineering, I have 10+ years of experience with mechanical, robotic, computer, vision, and electrical systems. I have worked as a software engineer, integration engineer, research associate, and outreach personnel focused on advanced robotics and digitization technologies. Organized, highly motivated, and a life-long learner, I enjoy taking ideas from concept into reality.

Contact

ceridwen.hopely@gmail.com

908-461-5595

Collegeville, PA, 19426

ceridwenhopely.site123.me

Education

Robotics, M.S.
University of Pennsylvania
Philadelphia, PA
2010-2011

Mechanical Engineering, B.S.
Rowan University
Glassboro, NJ
2004-2008

Graduate Courses

- Robotics
- Advanced Dynamics
- Robotics & Automation
- Design of Mechatronic Systems
- Computer Vision & Computational Photography
- Engineering Entrepreneurship
- Linear Systems Theory
- Computer Graphics
- Product Design

Professional Experience

Automation Engineer, PTS Automation & Pharma 4.0

GlaxoSmithKline R&D Pharmaceuticals – Collegeville, PA

Apr 2014 – present

- Deployed and repurposed new and used liquid handling systems across R&D early-stage drug discovery laboratories backed by ROI (return on investment) analysis and stake holder engagement.
- Developed novel applications for several collaborative robots in a laboratory with Baxter, KUKA iiwa LBR and Universal Robots UR3 and UR5, including designing and installing a custom autonomous machine tending system with a UR3, Cognex vision system and custom mechanical designs.
- Designed custom parts specifically for 3D printing manufacturing methods for robotic grippers, sensor brackets and part vessels using both in-house equipment and third-party service providers.
- Worked as a communication and outreach partner for our team including developing posters, presentations and verbal messages as well as leading demonstrations of innovative technologies to leadership teams, senior scientists and kids on community and volunteer days.
- Coordinated and developed explicit collaborations with multiple academic institutions detailing deadlines, budgets and deliverables to research collaborative robotic manipulation virtual reality projects.
- Maintained pharmaceutical laboratory including management of tools, small parts and consumables for proof of concept work with robotics and other technologies.

Robotics Engineer, Intelligent Robotics Laboratory

Lockheed Martin Advanced Technology Labs – Cherry Hill, NJ

Jul 2012 – Apr 2014

- Developed software for autonomous source seeking using a proprietary single-wing UAV in a GPS-denied environment using a simulated Simulink environment culminating in field test flights.
- Worked as field team lead and mechanical engineer on Team TROOPER to develop a software solution for the humanoid robot, Atlas, to compete in the DARPA Robotics Challenge.
- Managed budget and small parts purchasing for field needs
- Worked within an Agile workflow on a large software development team to create custom algorithms for the Atlas robot in ROS/C++.
- Possessed Top Secret Clearance for ongoing projects.

Research Associate, Intelligent Robotics Laboratory

University of Pennsylvania – Philadelphia, PA

Dec 2011 – Jul 2012

- Assisted research at Lockheed Martin ATL for aerodynamically efficient formation flight and control of a team of single-wing UAVs from MATLAB and Simulink simulations.
- UPenn sponsored internship opportunity developed into a full-time position at the Intelligent Robotics Laboratory at Lockheed.

Third Shift Manufacturing Engineer, Packaging Floor

Excelsior Medical Corp. – Neptune, NJ

Aug 2008 – Aug 2010

- Supported medical manufacturing operations of pre-filled syringes.
- Increased efficiency of packaging floor by refining vision software for Cognex cameras and barcode readers, upgrading sensors and performing daily/weekly/monthly preventive maintenance.
- Performed multi-day site acceptance tests for new manufacturing lines and equipment during expansion from seven to thirteen lines.
- Provided daily support to mechanical repairs on packaging floor and managed mechanics during night shift as well as organization and filing of regulatory documents.

Skills

- SolidWorks
- MATLAB
- Simulink
- Cognex
- Unity 3D
- OpenCV
- Java
- Python
- C/C#/C++
- Linux/ROS
- Visual Basic
- Office

Experience

- Mechanical Design
- Mechanical Fabrication
- Electrical Wiring
- Mech-Electrical Integration
- Basic Programming
- Reverse Engineering for 3DP

Interests

- Robotics
- 3D Printing
- Computer Vision
- VR/AR/XR
- Home Automation
- DIY Embedded Electronics