Contact

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Top Skills

MATLAB
Freeform Optical Polishing
Mechanical Controls

Languages

Spanish (Limited Working)
English (Native or Bilingual)
Italian (Elementary)

Honors-Awards

Made Deans List
1st Place in 2018 Mini Unmanned Aerial Vehicle Competition
Graduated with Magna Cum Laude

Publications

Scaling-up freeform manufacturing: challenges and solutions
Scaling-up freeform manufacturing: challenges and solutions
Smoothing mid-spatial frequency (MSF) errors on freeform optics with an algorithm-based robotic platform utilizing deflectometry input

Nick Quattrociocchi

BS/MS Mechanical and Controls Engineering
Rochester, New York Metropolitan Area

Summary

I worked at Optimax Systems Inc. for 6 years part-time during my undergrad. When I left, I was a robotics programming specialist and worked on several different robotics platforms. I have experience working with more than 30 different programming languages, but the listed skills are the languages I can work with without refreshing. At Optimax, I worked as a manual machinist, IT technician focused on software and ERP development, and a Robotics specialist in Research and Development.

I started at Corning as a Co-op through Pro Unlimited, a contracting company, as a Controls and Mechanical Engineering Intern. There I was developing system identification techniques for motor systems using optimization, PID Autotuning using Optimization, and creating automated calibration routines for one of their robotic platforms. I was recently employed at Corning, where I hold the title Controls Engineer. I work on automating some of the most complex problems the company has in its advanced optics division. My day-to-day tasks primarily consist of systems modeling projects and Machine learning tasks.

I have an MS in Mechanical Engineering from Rochester Institute of Technology, with a minor in computer science, and a minor in applied mathematics. The Mechanical degree focused on controls and simulations. The Computer Science minor was focused on machine learning and AI, and the Mathematics Minor focused on Stats, Optimization, and Computational Mathematics.

I also have some publications on Scaling-up freeform manufacturing, and one for smoothing of mid-spatial frequencies using robotic platforms, see links. My MS was published through ProQuest, and is linked below as well.

Experience

Corning Incorporated
Controls Engineer
May 2022 - Present (1 year)
Fairport, New York, United States

In this role, my title does not reflect what I am working on. I automate processes and work with multidiscipline teams to accomplish some of the hardest problems facing the Advanced Optics Division. My day-to-day tasks generally include systems modeling and machine learning tasks

Rochester Institute of Technology
Research Assistant
September 2021 - May 2022 (9 months)
Rochester, New York, United States

My Thesis proposes a landing position validation system for a UAS. The system is to be implemented on a Flying-Ambulance type vehicle, utilized in highly urban areas. By using modern CV techniques, I gather distance data from the ground and use that as a means to determine the optimal location to land, if such a location exists. Otherwise, move forward or backward to try and identify a new potential location to land. My tuition has been waived and I received a stipend for my work.

Corning Incorporated
Controls/Mechanical Engineering Intern
June 2021 - August 2021 (3 months)
Fairport, New York, United States

Robotics:
* I developed closed form solutions for calibrating the in house robotics platform to coordinate systems, and sensor development to facilitate the calibration process.
Controls:
* Automating System Identification routines for motor systems; using optimization to fit multiple functions to the transfer function response for the motor system.
* Auto-tuning PIDs based on the aforementioned system identification process, also using optimization.
Optimization:
* Fitting datasets to both arbitrary piece-wise functions, and periodic functions.
* Created pseudo exterior penalty functions to constrain minimization routines to result in strictly desired, and stable outcomes

Optimax Systems, Inc.

Robotics Specialist

November 2014 - December 2020 (6 years 2 months)

Ontario County, New York, United States

The main tasks were:

* Maintaining, developing new software, and solving issues with 3 different robotic platforms.
* Developing Automated calibration routines for robotic platforms.

Other Tasks include:

* Delegating interns day to day tasks; over several summers I have delegated tasks to the groups of the interns, supplying them with work and duties on the robotic platforms and or preparation of optics for processing.
* Polishing Freeform Optics too extreme for the production floor
* Swap positions with the "production floor's main robot engineer" when needed.

Education

Rochester Institute of Technology

Mechanical Engineering, Mechatronics, Robotics, and Automation Engineering · (2018 - 2022)

Monroe Community College

Associate of Science - AS, Engineering · (September 2016 - May 2018)

St. John Fisher College

Bachelor's degree, Physics/Pre-Enginering · (September 2015 - May 2016)