

# Aamir H. Husain

📍 New York/New Jersey

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## 📁 Experience

### Robotics & Automation Engineer | Siemens CT

Feb 2019 - July 2019

📍 Princeton, NJ

- ↔ Contracted through Randstad Sourceright
- ↔ Software architect for robotic control and ROS integration with Siemens MindSphere IoT operating system
- ↔ Developed a ROS-based API for control of a dual-arm robot station to simplify and standardize future development
- ↔ Lead CAD designer for a robotic assembly project, designing custom gripper extensions and other manipulation tools
- ↔ Extensive hands-on experience with KUKA robot arms, MiR Industrial Robots, Universal Robots

### Robotics & Automation Engineering Intern | Siemens CT

Jul 2018 - Sep 2018

📍 Princeton, NJ

- ↔ Worked with a small team of engineers to design a highly modular and fully autonomous farming system
- ↔ Improved existing performance by creating a scalable, decentralized, multi-agent scheduling and path planning algorithm using ROS, Python, and object oriented programming to control and coordinate a fleet of mobile robots

### Software Developer & Consultant | FAST Enterprises

Aug 2015 - Aug 2017

📍 Washington, DC

- ↔ Contracted through Enlightened, Inc.
- ↔ Developed new and simple online tax forms (primarily with SQL and .NET) for the residents of Washington, DC which drastically improved the way both locals and government workers handle taxes within the District
- ↔ Listened to the customer's needs with client-side consulting to implement state-specific tax laws in a user-friendly way

### R & D Intern | Spine Wave, Inc.

Jun 2013 - Aug 2013

📍 Shelton, CT

- ↔ Independent project of designing a prototype housing for a spinal prosthetic implant gun (StaxX XD) which included force and distance sensors to measure human effort and material stability when pulling the trigger on the device
- ↔ Hands on experience with designing and building circuits (amplifiers, Wheatstone bridge difference measurement), and extensive use of SolidWorks and high quality 3D printing

## 🎓 University

### Master of Science: Robotics

Northwestern University '18

### Bachelor of Science: Biomedical Engineering

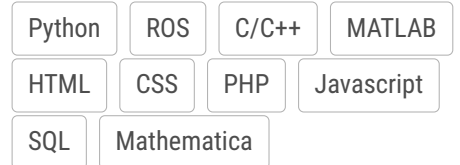
George Washington University '15

### Istanbul Exchange Program (Semester Abroad)

Boğaziçi Üniversitesi '13

## 🔧 Skills

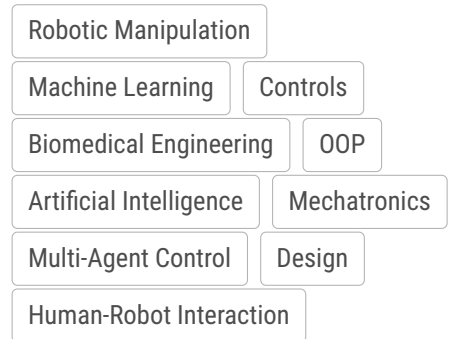
### </> Programming



### ⚙️ Tools



### 💡 Concepts



## 📞 Contact

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## Selected Projects

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### **Multi-Robot Teleoperation & Localization** | MS final project

Apr 2018 - Dec 2018

📍 Evanston, IL

- ↔ Final Masters project that involves the construction of three mobile omni-directional robots each equipped with a delta robot arm, as well as developing code for single agent localization and multi-agent formation control
- ↔ Low level control/odometry done using C/C++ and higher level robotic control uses custom and open source ROS packages

### **Day Zero Predictor** | Machine learning on a global scale

Apr 2018 - Jun 2018

📍 Evanston, IL

- ↔ Consolidated data on global water usage, population, and climate to train a machine learning algorithm that could predict when a country would reach its day zero to raise awareness for wasteful water consumption
- ↔ Trained an instance-based nearest neighbor model with 10-fold CV that performed with 88% accuracy

### **Argo: An Autonomous Suitcase** | Constraints on mobile robots

Jan 2018 - Mar 2018

📍 Evanston, IL

- ↔ Designed and built a ROS-enabled autonomous mobile robot that uses multiple PID controllers, a monocular camera, and a Raspberry Pi to follow a moving target (AR tag) at an average human walking speed
- ↔ This project explored the constraints encountered when building mobile robots, as well as putting emphasis on human centered design to make products that are useful while staying friendly and inviting