KASHISH GOYAL

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PROFESSIONAL SUMMARY

I am a Robotics graduate from Northwestern University, currently employed at Kindred AI (powered by Ocado). I have been working in the capacity of Full Stack Developer, developing software technologies for Robotic and other Automation systems.

EDUCATION

Northwestern University, Evanston, IL **Aug, 2017 - Dec, 2018**

Master of Science in Mechanical Engineering, Specializing in Robotics and Control, GPA: 3.92/4.00

EXPERIENCE

Kindred AI, *Toronto, ON* **May, 2021 - Present**

Robotics Software Developer

- **Autonomous Parcel Induction**
  Objective: Developing an autonomous robotic solution for singulating, scanning and placing parcels of various physical forms on to a slotted, moving conveyor.
  Skills: Peer Mentoring, Vision based conveyor tracking, Arm Motion Planning, Distributed Systems, RPC and Data Centric Communication, Golang, Python, C++
- **Autonomous Warehouse Operations - Groceries**
  Objective: Automate the grocery workflow from an online order to delivery, focusing specifically on order processing through autonomous bin picking and packing.
  Skills: Peer mentoring, Arm Kinematics and Motion Planning, Obstacle avoidance, Hardware System Design, Distributed Systems, Scalable Architecture, Golang, Python, C++

Siemens T, *Princeton, NJ* **Jan, 2019 - Apr, 2021**

Specialist Engineer, Robotics and Full Stack Development

- **ARM Automated Robotic Spraying and Disinfection in Shipyards and Warehouses**
  Objective: Developing an autonomous mobile robot for disinfecting industrial environments. The robot, mounted with an arm will detect and spray areas such as door knobs, handrails, etc at a FedEx shipping/sorting warehouse facility
  Skills: System Design, SLAM, Motion Planning, ROS, Angular, C++, Python Flask

- **ARM Multi-Robot Multi-Machine Interoperability**
  Objective: Mitigated commissioning costs of robotic systems by development of inter-ecosystem gateways and modular connectors between components typical to a real world manufacturing scenario.
  Skills: OPC-UA, DDS, ROS, ROS2, MTConnect

- **App Composer**
  Objective: Supported development of a low code workflow management tool to design and create industrial process workflows. The tool contains several building blocks which can be sequenced together.
  Skills: Distributed Systems, Code generation, runtime systems, C, C++, ROS, ROS2, bash

- **Abstraction Layer**
  Objective: Contributed towards design and implementation of a runtime framework to ease multi-ecosystem, multi-language and multi-platform integration of applications. The framework is based on modular architecture with plug and play components and auto generated glue code.
  Skills: C, C++, Python, Scada Systems, PLCs, ROS, ROS2, Snap7, CI/CD

Siemens T, *Princeton, NJ* **Jul, 2018 - Sep, 2018**

Intern, Automation and Robotics Researcher

- Worked in Siemens Future of Automation (FoA) lab to integrate UR collaborative robots and vision systems
- Implemented task planning for Pick and Place type Intelligent Industrial Robotics System
- Contributed in Siemens AgPods project, using grasp quality neural networks (GQ-CNN) to plan parallel jaw grasps
- Skills: Python, C++ , Data structures, ROS, OpenCV, Deep Learning, Runtime Systems, UR robots