

## Robotic Greeter – Hardware & Software

### CHALLENGE

CareGo Tek Inc. required a 'Robotic Greeter – a type of the Humanoid Service Robot with AI Capabilities' to give a more technological presence with customers, investors, suppliers, even staff members of the company. The robotic greeter should have the capability to speak with customers with speech recognition and to identify the customers and greet them by detecting their faces with face recognition concepts.

### PARTNER

#### CAREGO TEK INC.



CareGo is a technology business based in Burlington, Ontario. The company provides products and services that enable manufacturers such as steel mills, steel service centers and pipe and tube mills, to utilize automation to move, store and retrieve their heavy products (steel coils, plate, slabs, sheets, pipes and tubes) with unparalleled ease, safety and efficiency.

### TEAM

- Dr. Zhen Gao (Professor)
- Dr. Ishwar Singh (Professor)
- Somak Mukherjee (Student)
- Raj Bipinchandra Patel (Student)
- Perveen Kumar Vasudevan (Student)
- Jing Qian (Student)
- Robert Edwards (Community Partner associate)
- David Arango (Community Partner associate)
- Niko Hirn (Community Partner associate)

### MILESTONES & OUTCOME

- The optimized design of the robotic greeter achieved as an outcome through the iteration-based CAD design methodology.
- Successfully implemented software technology with AI capabilities such as Face Detection, Speech Recognition using Python programming languages, and its packages.
- Also, designed a web framework as an interaction tool for the customers.

### VALUE

Due to the COVID-19 outbreak, the project, unfortunately, cannot be materialized. But we successfully designed the robotic greeter's hardware body using CAD design methodology. We also implemented our software codes with CareGo Tek's system, and they were able to run & test it correctly.

### NEXT STEPS

- Design review of the hardware body, 3D printing of the robotic-greeter hardware body, and programming for the hardware system's mobility control.
- Putting all the software code into the Raspberry-pi OS & integration of the Raspberry-pi into Robot body.

### STUDENT REFLECTION

- Creativity & Learning
- Delegation & Efficiency
- Wider Sense of Ownership

