

# Jack Shelata

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jshelata@umich.edu | LinkedIn | GitHub | jackshelata.com

## Education

### UNIVERSITY OF MICHIGAN – ANN ARBOR, MI

B.S.E. Computer Science – May 2020

- GPA: 3.21/4.00

## Notable Course Topics

- Operating Systems
- Computer Security
- Artificial Intelligence
- Linear Algebra
- Computation Theory
- Web Systems
- Logic Design
- Computer Organization
- Data Structures and Algorithms

## Work Experience

### SOFTWARE ENGINEERING INTERN | COMAU | MAY 2019 – AUGUST 2019

- Helped kickstart Comau's Digital Manufacturing division in the United States focusing on IIoT solutions
- Built software to detect anomalies in vibrational sensor data and monitor health of components
- Integrated these software systems with Comau manufacturing machinery in FCA's SHAP to allow for increased plant visibility and near real-time facility monitoring on Comau's IIoT platform
- Designed UI for plant operators for viewing near real-time manufacturing performance data

### SOFTWARE ENGINEERING INTERN | COMAU | MAY 2018 – AUGUST 2018

- Implemented functional control software for 6-axis robotic arm using C++ and ROS
- Leveraged parallel programming and reinforcement learning techniques on NVIDIA GPU to train 6-axis robotic arm for pick and place in Gazebo simulation
- Recreated real-world environment in simulation using Python and OpenCV to track and place objects
- Maintained project repository using Git for version control and Doxygen auto documentation

### MECHANICAL DESIGN INTERN | COMAU | MAY 2017 – AUGUST 2017

- Effectively brought solutions to life using SolidWorks and AutoCAD for major automotive customers
- Collaborated with senior engineers developing products to implement in large scale assembly lines
- Created and presented mechanical software training documentation to executive leadership team

## Skills & Abilities

### COMPUTER TECHNOLOGY

- *Proficient in:* C/C++, Python, HTML/CSS/JavaScript
- *Familiar with:* Java, C#, SQL, Assembly, Verilog HDL, MATLAB, RabbitMQ
- *Other skills:* Vim, Git, Linux OS, ROS, Arduino, Gazebo, PTC ThingWorx, SolidWorks, Agile, REST APIs

### EXTRACURRICULAR INVOLVEMENT

- *Software Lead – Robotic Exploration of Space Team:*
  - Designed, developed, and tested control system for competition rover using C++, Python, ROS, and simulation in Gazebo
  - Actively managed team members and delegated tasks according to experience level and ability
  - Competed against over 40 other universities in the NASA Robotic Mining Competition
- *Senior Software Advisor – Robotic Exploration of Space Team:*
  - Assist new team leadership in designing autonomous rover software systems
  - Participate in team outreach activities including recruiting and community service events