

# AISHWARY JAGETIA

Worcester, MA, USA | (774) 253-1607 | adjag Setia@wpi.edu | <https://adjag Setia.github.io>

## EDUCATION

**Worcester Polytechnic Institute (WPI), Worcester, MA, USA**  
Master of Science in Robotics Engineering, CGPA: 4.00/4.00

**August 2017 - May 2019**  
(expected)

**Symbiosis International University (SIU), Pune, India**  
Bachelor of Technology in Mechanical Engineering, CGPA 3.747/4.00

**June 2013 - May 2017**

TFI LEARN Semester Exchange (Highly Selective)  
**Nanyang Technological University (NTU), Singapore**

**August 2016 - December 2016**

## SKILLS AND CERTIFICATION

<b>Programming languages</b>	Python, MATLAB, Simulink, C++, Buzz, html
<b>AI Frameworks</b>	TensorFlow, Keras, MXNet, Glueviz, MATLAB, Caffe, Theano, ABB Robot Studio, ARGoS
<b>Design Software</b>	Pro/E, PTC Creo, AUTOCAD, CATIA, Pro/E, Solidworks, ANSYS, NX Siemens, Sketch-up
<b>Computer Skills</b>	Cura, Assembly Programming System, Standard Time Data System, Arduino, Microsoft Office
<b>Relevant Courses</b>	Foundation of Robotics, Synergy of Human and Robotic System, Deep Learning for Adv Robots, Robot Control, Robot Dynamics, Swarm Intelligence

## EXPERIENCE

**Neurala, Inc., Boston, USA**  
**Research Engineer | Internship**

**May 2018 – December 2018**

- Responsible for implementing dataset creation, transfer learning, training neural networks and device testing for tasks such as semantic/instance segmentation, object detection, and video segmentation using TensorFlow, Keras, MXNet and Caffe.
- Deployed semantic segmentation model in specialized embedded hardware with compression techniques as well as optimizing the network to run efficiently on edge devices for the World's leading non-US based mobile company.
- Developing novel methods and architectures to improve the quality of image and video processing for scientific development of customer facing technology demos and contractual deliveries.

**General Motors India Pvt. Ltd, Pune, India**  
**Project Trainee | Internship**

**December 2015 - June 2016**

- Improved productivity by introducing 13 industrial robots and line balancing.
- Improved more than 120 Standard Operation Sheet based on time study using STDS.
- Trained and implemented Assembly Processing System (APS) Software.
- Improved Hours Per Unit (HPU) with an increment in utilization percentage from 79% to 90%, value-added work from 59% to 62% and decrement in over speeding from 25% to 11%.

## PUBLICATION

Shastri, A.S., Jagetia A., Sehgal, A., Patel M., Kulkarni, A.J.: "Expectation Algorithm (ExA): A Socio-inspired Optimization Methodology", in Kulkarni, A.J., Singh, P.K., Satapathy, S.C., Ali, H.K., Tai, K. (Eds.): Socio-cultural Inspired Metaheuristics, (In Press: Studies in Computational Intelligence, 2019) Springer.

## PROJECTS

**Predicting Grade of Road for Autonomous Vehicles Using Supervised Deep Learning, WPI** **August 2017 - December 2017**

- Led the project, with successful implementation of the model in real time grade evaluation.
- Developed a deep convolutional neural network architecture using Keras with TensorFlow backend, to train the labeled dataset of Inertial measurement unit (IMU) and Global positioning system (GPS) readings.

**Design of a low-cost robotic system to aid in the rehabilitation of stroke patients, WPI** **August 2017 – December 2017**

- Led Mechanical work stream of Haptic device, worked in CAD modeling, 3D printing and Hardware systems.
- Designed a haptic device with 6-DOF system along with the implementation of Dynamic Motion Primitives (DMP), Motion Capture (MO-CAP) system and newly developed rehabilitation game.

**Robotic Control of a Surgical Laser Waveguide using ABB Robot, AIM Lab, WPI** **January 2018 – April 2018**

- Control of the laser position, with the development of motion primitives for laser scanning and focus adjustment on tissue.
- Simulation on ABB Robot Studio and Hardware implementation using GUI-Movelt-ROS communication channel.

**Occlusion-Based Cooperative Transport with a Swarm of Mobile Robots, NEST Lab, WPI** **March 2018 – April 2018**

- Proposed and simulated a method to overcome concavity in the objects by concave filling using mobile robots (Khepera IV).
- Implemented an occlusion based collective transport using swarm of mobile robots (Khepera IV) in a decentralized manner.

**Adaptive Trajectory Control for a Robotics Arm Subject to Varying Load, WPI** **March 2018 – April 2018**

- Examined two advanced Adaptive Control methods of a manipulator robot carrying a time varying payload.
- Compared both the methods with detailed analysis and various experimentation, discussing of pros and cons of each.