

# Minglun Tang

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## EDUCATION

- Columbia University**, Master's Degree New York, NY, Sept. 2018 - Present
- Major: Mechanical Engineering, concentrating on robotics and control
  - Main courses: Robotics, Robot Learning, Data Mining, Control Theory, Vibration of Machines, Numerical Methods
- Wuhan University of Technology**, Bachelor's Degree Wuhan, China, Sept. 2014 - June 2018
- Major: Automotive Engineering
  - Main courses: Automobile Construction, Theory of Vehicle, CAD/CAE of Automobile, Electronic Control
- University of Michigan** Dearborn, MI, Sept. 2017 - Apr. 2018
- Major: Mechanical Engineering
  - Main courses: Acoustic and Noise Control, Design and Analyze of Mechanical Elements, Thermal Fluid Sciences
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## INTERNSHIP

- SAIC General Motors Corporation Limited** Wuhan, China, July 2017 - Aug. 2017
- Used checking fixture to verify dimensions on parts.
  - Evaluated inspection data collected by VISION (On-line Measuring System) and analyzed the data accumulated by Coordinate Measuring Machine to identify trends.
  - Reviewed dimensional issues and cooperate with other staff in the group to create rework plans.
  - Visited part suppliers to communicate with them for our requirements and problems of their components. Negotiated with them to find solutions to meet both requirements.
  - Developed experience in four automobile manufacturing processes (stamping, welding, painting and assembling).
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## PROJECTS

- Robot Grasping** New York, NY, Jan. 2019 – Present
- Used a glove which has many sensors to collect a dataset of a person grasping various objects and used clustering to train the data. And when new data came on, use machine learning to predict the object grasped by hand.
- Robotics Simulation** New York, NY, Sept. 2018 - Dec. 2018
- Implemented the RRT algorithm on a 7-joint Kuka robot arm for obstacle avoidance and motion planning.
  - Created an Extensive Kalman Filter for a moving robot to estimate its real time position.
  - Used ROS in Linux system to complete the project. Used tools including URDF, RViz and MoveIt. Coded in python for all the algorithms.
- Two-wheeled Robot Balance Control** Dearborn, MI, Jan. 2018 - May 2018
- Controlled a two-wheeled robot to reach gravitational equilibrium in case of disturbance. Simulated it using Matlab.
- Suspension Design for a small size SUV** Wuhan, China, May 2018 - July 2018
- Designed a suspension, including springs, shock absorbers, cross-steadied sticks according to the basic parameters of the vehicle. Built and assembled the 3-D model in SolidWorks and printed out the 2-D drawings using Auto CAD.
  - Developed a small program to simplify the calculation processes.
- Muffler Design and Optimization** Dearborn, MI, Sept. 2017 - Dec. 2017
- Designed and optimized a muffler for a small-sized vehicle. The software WAVE was used to build model and calculate the transmission loss.
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## STUDENT GROUP LEADERSHIP

- Student Union**, Chief of Department of Social Practice Wuhan, China, Sept. 2015 - June 2016
- Negotiated with companies to offer internship opportunities and led 3 teams more than 50 students to intern at 3 companies respectively.
- Chinese Scholars and Students Association**, Propaganda Minister Dearborn, MI, Oct. 2017 - May 2018
- Led the filming of the promotional video of 2018 Spring Festival Gala.
  - Operated the WeChat public account of CSSA. Doubled the average reading volume during that period.
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## SKILLS

- Language: Python
- Software: MATLAB, ANSYS, SolidWorks, Auto CAD, MS Office