

QIANG GU

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EDUCATION

Carnegie Mellon University, Master of Science in Mechanical Engineering Dec. 2017

Overall GPA: **3.96/4.00**

Tohoku University, Japan, Bachelor of Engineering in Mechanical Engineering Mar. 2016

Overall GPA: **3.89/4.00**, Rank: **1/9**

EXPERIENCE

Manufacturing Engineering Intern, Eaton Fluid Power (Shanghai) Co., Ltd. Jul. 2017 – Aug. 2017

Project: Design of a jig fixture for the hydraulic pump

-- Designed and modelled a fixture assembly to hold the hydraulic pump while tightening.

-- Prepared engineering drawings for components and the assembly with AutoCAD.

Research Assistant, Robotics Institute, Carnegie Mellon University May. 2017 – Present

Project: PipeDream – A Robot to Evaluate Deposits in Gaseous Diffusion Piping (collaborated with Portsmouth)

-- Designed individual parts and the overall structure to hold all electronic components (cameras, LED lights, sensors, switches, wires, etc.) for the front sensor end of the robot.

-- Modeled and machined mechanical components with machine shop tools and assembled the whole robot.

Research Assistant, System Robotics Lab, Tohoku University, Japan Apr. 2014 – Mar. 2016

Project: Material Selection and Manufacturing for Robotic Manipulator

-- Produced a novel type robotic manipulator using epoxy resins.

-- Simulated a real arm by multi-level structure with various hardness.

-- Designed in SolidWorks, machined the bulk material with Modela and realized details by 3D-printing.

SKILLS

Tools: SolidWorks, ANSYS, AutoCAD, Inventor, Milling-Drilling Machine, CNC Machine, CES.

Programming: C, C++, Python, MATLAB, OpenGL, OpenCV, Linux.

Language: Mandarin (Native Speaker), English (Fluent), Japanese (N2 Passed).

SELECTED COURSES

Applied Finite Element Analysis Robotic Systems and Internet of Things CAD and CAE tools

Advanced Mechanical Design Additive Manufacturing Material Selection

DIY Design and Fabrication Mobile Robot Development Mechatronics Design

SELECTED PROJECTS

Automatic Basketball Returner [Group], Carnegie Mellon University Spring 2017

-- Designed the component between automatic returner and basketball hoop.

-- Organized the positions and the connections between camera, motor, timing belt and Arduino board.

Scrub, an Automatic Window Washer [Group], Carnegie Mellon University Spring 2017

-- Selected material for different components to keep balance between weight, strength and friction coefficient.

-- Designed the drive train of the washer and repeatedly updated it according to testing results.

-- Project website at: <http://cmumechatronics2017teami.weebly.com>

Optimized Components Design Series [Group], Carnegie Mellon University Spring 2017

-- Designed the structure of the components to achieve the optimized performance in tensile loading, bending, torsion, fatigue and cost in five independent projects.

DIY Hands-on Product Design Series [Individual], Carnegie Mellon University Fall 2016

-- Designed and fabricated a series of small products that bring convenience to people's life.

-- Completed a series of engineering drawing and design sketching for various objects in real world.

-- Project list at website: qiangg.weebly.com