

# Rachel Tong

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## EDUCATION

### University of Wisconsin-Madison

MS in Biomedical Engineering (May 2019)

*Biomechanics and Neuroengineering*

BS in Biomedical Engineering (May 2018)

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## EXPERIENCE

### Neural Interface Technology and Research Optimization Lab

*Jan 2017 – Present*

*Research Engineer, Madison, WI*

- Designed and fabricated neural electrodes for use in orthopedic prosthesis, deep brain stimulation, glymphatic, and trigeminal nerve neuroscience experiments
- Generated Matlab and LabVIEW programs for robotic control and electrophysiological data collection and analysis
- Performed in in-vivo animal experiments including neurosurgery and pre/postoperative animal care

### Straits Orthopaedics

*May 2018 – Aug 2018*

*Design Engineering Intern, Penang, Malaysia*

- Designed and tuned manufacturing process flow to improve and support international projects
- Performed quality assurance testing with various tools to ensure FDA regulatory compliance
- Modeled in SolidWorks and Mastercam to design parts and fixtures for manufacturing processes
- Collaborated with inter-departmental teams including Manufacturing, R&D, Materials, and Regulatory to deliver on project deadlines
- Delivered technical presentations of engineering and manufacturing capabilities to clients

### Department of Biomedical Engineering

*Jan 2019 – Present*

*Teaching Assistant, Madison, WI*

- Lead lecture sections for 30+ students and deliver constructive feedback for improved performance
  - Develop new course content through integration of wireless communication and API integration
  - Conduct and monitor lab experiments to demonstrate current engineering skills including circuits, programming, CAD, and data analysis
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## DESIGN PROJECTS

### *Semi-Active Sports Prosthesis*

- Designed ankle sports prosthesis for local transtibial amputee. Responsible for CAD modeling, FEA testing, motion capture and force plate testing, data analysis, and project management. Currently pursuing a patent on the design. **Awards:** TechB2B (3<sup>rd</sup> place), Tong Prototype (2<sup>nd</sup> place)

### *Skin Cancer Detector (Leader)*

- Designed a non-invasive probe used to measure impedance across the skin for skin cancer analysis. Responsible for design ideation, circuitry and probe fabrication, and team organization for project completion.
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## SKILLS

- Java, Python, Matlab, Arduino, SolidWorks, Minitab, R (Statistical Analysis), 3D Print, Microsoft Office