

**James Boucher**  
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**Education**

Rensselaer Polytechnic Institute, Master of Engineering – Troy, NY – August 2021

- Biomedical Engineering Major
- **GPA: 3.77**

University of Massachusetts Lowell, Bachelor of Science in Engineering – Lowell, MA – May 2020

- Biomedical Engineering Major & Mathematics Minor
- **GPA: 3.94**; Major GPA:3.95; *Summa Cum Laude*
- Excellence in Teaching Support Award, Biomedical Engineering Department, 2020

**Professional Work Experience**

Product Analysis Engineer - Abbott Laboratories - September 2021 to May 2022

- Analyzed returned Left Ventricular Assist Devices (LVADs)
- Investigated and responded to customer complaints with regulatory considerations
- Utilized laboratory equipment for imaging, electrical testing, and hydraulic qualification
- Conducted team meetings, both in person and virtual, in a professional manner

Graduate Teaching Assistant - Rensselaer Polytechnic Institute, - Troy, NY - August 2020 to August 2021

- Worked as a Teaching Assistant for three courses: (1) Biomedical Product Development, (2) Biomaterials, and (3) Intro to Biology
- Created exam questions requiring problem-solving skills
- Provided guidance to students towards solving complex problems and offered detailed assignment feedback to students
- Held regular office hours and encouraged student participation

Administrative Assistant - Tewksbury Federal Credit Union - Tewksbury, MA - June 2017 to August 2020 and Summer 2021

- Analyzed reports using software to review irregularities or extract desired information
- Provided member account services as a teller in a fast-paced institution
- Scanned, filed, and analyzed sensitive member information
- Provided technical and network assistance

Course Grader - UMass Lowell - Lowell, MA - Fall 2019 to Spring 2020

- Worked as a grader for two courses: (1) Biomaterials and (2) Biomedical Engineering II
- Contributed extensive student feedback and present solutions to coursework problems for biomedical engineering classes
- Provided faculty support regarding student progress and academic goals

**Research Experience and Academic Projects**

Hahn Tissue Laboratory – Graduate Student – Spring 2021

- Performed laboratory techniques including Western blotting, PicoGreen, and immunocytochemistry
- Executed quantification and statistics on collected data
- Gained experience in aseptic technique on mammalian cell culture without antibiotics
- Performed regular laboratory duties and repair of equipment (electronics, vacuum pumps, and freezers)
- Wrote and reviewed grant and fellowship applications
- Worked efficiently with others and assisted team members in a collaborative environment

Biomaterials and Tissue Engineering Undergraduate Research Volunteer – UMass Lowell – Fall 2019 to Spring 2020

- Performed literature research on biomaterials and tissue engineering

Sectional Upper Respiratory Model – UMass Lowell – Fall 2019 to Spring 2020

- Developed a computational model of particle distribution and drug delivery efficacy
- Worked in a team as part of a capstone project

**Leadership Experience**

Project Management for UMass Lowell Biomedical Engineering Freshman – Lowell, MA – Fall 2019

- Lead freshman peers on a research, teamwork, and skill development project

Boy Scouts of America – Tewksbury, MA – 2009-2016

- Earned the rank of Eagle Scout in 2016 and lead as a Senior Patrol Leader and a Junior Assistant Scoutmaster

Tewksbury Food Pantry Volunteer Project Leader – Tewksbury, MA – 2016

- Designed, constructed, and delivered two food donation boxes for an Eagle Scout Service Project to fit the needs of the designated locations
- Directed 12 workers of various skills and ages

National Youth Leadership Training – Kingston, NH – 2013-2015

- Volunteered for 300+ hours per year preparing for and conducting a leadership course
- Managed a team of instructors as Assistant Senior Patrol Leader (ASPL) in 2015
- Lectured in large-group instructional presentations on leadership skills and techniques

### **Honors and Awards**

Excellence in Teaching Support Award – UMass Lowell – 2020

Valedictorian – Tewksbury Memorial High School – 2016

Top Scholar in Science – Tewksbury Memorial High School - 2016

Eagle Scout – Boy Scouts of America – 2016

### **Skills**

*Statistical Methods:* R, MATLAB & Simulink, and Microsoft Excel including Solver and functions

*Physics Simulation Software:* COMSOL Multiphysics, ANSYS Fluent

*CAD:* Solidworks Associate Certification, AutoCAD

*Reference Management Software:* EndNote, Mendeley

*Laboratory:* Aseptic technique, cell culture, Western blotting, immunocytochemistry, image quantification, microscopy

*Electronics/Mechanical:* Basic circuit knowledge; hobby activities including 3D printing and audio installations; repair of cars, motorcycles, and appliances