

Jakob Hamilton

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Objective

To gain co-op experience in metal additive manufacturing and rapid prototyping in an industry or research setting from May-August 2019

Education

Master of Science, Industrial and Systems Engineering

Expected Graduation: December 2019

Rochester Institute of Technology | Rochester, New York

Interdisciplinary Manufacturing Engineering and Design (iMED) Laboratory

Research topics: metal additive manufacturing, aluminum matrix composites

Cumulative GPA: 3.89/4.0

Iowa State University | Ames, Iowa

August 2017-August 2018

M.S. classes: 6 credit hours

Cumulative GPA: 4.0/4.0

Bachelor of Science, Engineering Science

May 2018

Wartburg College | Waverly, Iowa

Mathematics and Physics Minors

Cumulative GPA: 3.94/4.0 | Dean's List | summa cum laude

Technical Experience

MIT Summer Research Intern

June 2018-August 2018

Massachusetts Institute of Technology | Lincoln Laboratory | Lexington, Massachusetts

- Worked in a team to reverse-engineer and improve a micro unmanned aerial vehicle (UAV)
- Orally presented detailed research results and deliverables to group leadership
- Taught additive manufacturing principles at MIT Beaver Works Summer Institute
- Organized 3D printing and G-code challenges for students
- Constructed and revamped a consumer-grade 3D printer

Manufacturing Laboratory Technician

May 2017-May 2018

Wartburg College Innovation Studio | Engineering Science Department | Waverly, Iowa

- Installed and tested CNC equipment including a 4-axis mill, lathe, and laser cutter
- Trained students for safe and successful operation of CNC machines and 3D printers

Engineering Intern

May 2015-August 2016

Kossuth County Engineer's Department | Algona, Iowa

- Assisted engineers in concrete flexural testing for three bridge projects
- Performed air and slump testing on pre-poured concrete

Training Leadership Roles

Laboratory Teacher's Assistant

September 2016-April 2018

Classical Physics Lab | Physics Department | Wartburg College

- Clarified experimental and physical concepts in Classical Physics Lab
- Worked with other assistants to assemble lab equipment prior to lab sessions

Supplemental Instruction Leader

September 2016-April 2017

General Physics | Physics Department | Wartburg College

- Developed and facilitated peer learning sessions for the General Physics class
- Organized and distributed weekly attendance and session topics to Supplemental Instruction Coordinator

Student Manager of Equipment Operations

March 2015-May 2018

Wartburg College Technical Theatre Department | Waverly, Iowa

- Collaborated with student manager team to hire and train more than 30 new employees

Invited Presentations

2019 IISE Annual Conference and Expo:

May 2019

Abstract Title: *Additive Manufacturing Alloys: Reinforcement Homogeneity Determination of Aluminum Matrix Composites*

2019 TMS Annual Meeting and Exhibition:

March 2019

Abstract Title: *Additive Manufacturing Alloys: Fabrication of Aluminum Matrix Composites*

Relevant Skills

3D CAD/CAM: Design creation, structural analysis, and manufacturing using Creo, SolidWorks, and Mastercam

Mathematical Modeling: Numerical and analytical simulations through Vensim PLE

Machines: Experience with machine shop tools and compiling basic G-Code operations

Programming: Experience solving problems via Python, MATLAB, AMPL, Excel, and Java