

Michael Aksen

Engineer

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EDUCATION

Rensselaer Polytechnic Institute (RPI), Troy, NY May, 2023
Master of Engineering in Mechanical Engineering GPA: 3.3/4.0
Rensselaer Polytechnic Institute (RPI), Troy, NY May, 2022
Bachelor of Science in Mechanical Engineering GPA: 3.6/4.0

PROJECTS

Computerized Industrial Bandsaw — The Factory Amsterdam June 2021 — May 2023

- Replaced the mechanical relay logic of an unreliable 50-year-old industrial bandsaw with a PLC and digital logic that improved throughput and reduced downtime by >50%
- Mapped digital/analog machine data to a cloud-based data model to develop smart manufacturing insights

Mini-Segway Controller — Mechatronics, RPI Jan 2023 — May 2023

- Balanced a mini-Segway for 2 hours by modeling the system with an electromechanical ODE model and implementing a PID controller in MATLAB and Simulink

Atomic Orbital Kinematics — Spaceflight Mechanics, RPI Jan 2023 — May 2023

- Derived the atomic orbital kinematics of a hydrogen atom with 91% accuracy using the Bohr atomic model and applying the 2-body problem to the Coulomb law and simulating results using ode45 in MATLAB

300 Toy Airplanes — Manufacturing Processes and Systems Lab I & II, RPI Sept 2021 — May 2022

- Collaborated with a team of 12 students to fabricate 300 toy airplanes using various industrial processes
- Iteratively designed and built a forming die to make 300 steel wheel axles under DFM considerations
- Programmed pick-and-place robot operations to assemble injection-molded wings with a 95% success rate

WORK & LEADERSHIP EXPERIENCE

The Factory Amsterdam, *Engineering Researcher*, Amsterdam, NY June 2021 — May 2023

- Modernized an industrial bandsaw with a PLC to reduce maintenance downtime and improve functionality
- Designed a fixture in SolidWorks to mill aluminum components in a 5-axis CNC Mill

RPI Habitat for Humanity, *President*, RPI Aug 2018 — May 2023

- Coordinated with three Habitat chapters to organize builds for the club members
- Led club in meetings and organized club activities during the '20 - '23 school years

Troy Tutors, *Tutor*, Troy, NY Sept 2022 — May 2023

- Tutored students in Engineering Graphics and CAD coursework

USPS Engineering, *Vehicle Engineering Intern*, Merrifield, VA Jan 2020 — Apr 2020

- Designed and MIG-welded a steel assembly to test the efficacy of an autonomous delivery vehicle

BrightLogic, *Software Engineering Intern*, Midland Park, NJ Sept 2017 — July 2018

- Developed a log-collection back-end interface for a mobile app using JavaScript and C#

COMPETENCIES & AWARDS

Software: NX, NX Nastran (FEA), Simulink, SolidWorks, AutoCAD, STK, Git, Minitab
Programming: Java, PLC Ladder Logic, Python, MATLAB, Arduino C, SQL
Manufacturing: 3D Printing, Manual machining, MIG Welding, Soldering, Waterjet, DFM, Lean VSM
Certifications: FE Certified, Systems Tool Kit (STK) Level I Certified
Awards: '21 Gene Haas Manufacturing Award Recipient, '20 RPI Elevator Pitch Competition 3rd Place