

# Ian H. Orsag

East Lansing, MI / Pittsburgh, PA • 412-506-7911 • [orsagian@gmail.com](mailto:orsagian@gmail.com) • [linkedin.com/in/ianorsag](https://www.linkedin.com/in/ianorsag)

## EDUCATION

---

**Michigan State University, College of Engineering**, East Lansing, MI May 2029

*Bachelor of Science, Mechanical Engineering*

*Minor in Business*

- Baja Racing Club (General Member)

**Upper Saint Clair High School**, Pittsburgh, PA May 2025

- FIRST Robotics Greater Pittsburgh Regional Dean's List Award Winner and Finalist
- President's Volunteer Service Award, September 2022, September 2023, September 2024

## RELEVANT EXPERIENCE

---

**Robotics Institute at Carnegie Mellon University**, Pittsburgh, PA Jun. 2025 – Aug. 2025

*Mechanical Engineering Intern*

- Expanded my knowledge and expertise in CAD software through various workshop improvement projects
- Manufactured parts on manual mills and lathes
- Compiled costed bill of materials and sourced quotes for outsourced parts
- Worked directly under the shop manager, Tim Angert, to gain valuable exposure to the practical application of engineering principles in robotics

**Titanium Titans**, Cannonsburg, PA Mar. 2019 – May 2025

*FIRST Robotics CAD Lead*

- Self-trained in SolidWorks and Onshape
- Designed competition-winning team robots from 2018 to 2025. This included 5+ subsystems and hundreds of parts
- Consulted on robot CAD design for FIRST teams globally
- Taught CAD workshops to students and adults online and in person

**Titanium Titans**, Cannonsburg, PA Mar. 2019 – May 2025

*FIRST Robotics Team Lead*

- First team captain in the team's history, student selected. Led team to qualify for the FIRST World Championship, 2025
- Worked with adult mentors to maintain the \$75,000 grant-funded budget and distribute funds for competition season, training, purchase of robotics components, and machinery
- Recruited new high school team members and trained all facets of the team: team mission and history, machine operation and safety, business, manufacturing, and CAD
- Participated in regular Board Meetings as required to maintain the team's 501(c) non-profit status
- Wrote grants, met with funding sponsors, and developed partnerships with local and national businesses and corporations

## SKILLS

---

CAD Software (Onshape, Solidworks, Autocad, Inventor)

Manufacturing machinery (manual mill, manual lathe, drill press, hand tools, 3D printers. Proficiency with: CNC routers and laser cutters.)

Microsoft & Google Suite programs (Excel, PowerPoint, Outlook, Sheets, and Forms)

OSHA 10-hour Safety Certification, Red Cross CPR Training, Red Cross AED Training, Water Safety Training

## PROJECTS

---

Fully 3D printed sequential gearbox

- Fully designed in Autodesk CAD software
- Printed using Prusa 3D printers
- Finished working version in eight weeks

Water jet sludge removal system

- Worked with Tom Brown, Inc. to develop a solution for the company's water jet sludge buildup issues
- Fully designed in CAD, presented to Tom Brown, Inc., CEO and president

VEX competition robot

- Helped start a team and developed and built two entirely new robots that placed top 10 at multiple competitions