# Scott D. Odland

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## Education

**NORTHWESTERN UNIVERSITY** Evanston, IL

Bachelor of Science in Mechanical Engineering, Concentration in Robotics, GPA: 3.48/4.00 June 2021

Relevant Coursework: Electronics Design; Computer Aided Design; Fluid Dynamics; Thermodynamics, Mechatronics, Embedded Programming, Swarm and Multi-Robot Systems, Robotic Manipulation, Probabilistic Systems, Feedback Systems

## Leadership and Activities

**Northwestern University Robotics Club (NURC)** March 2020 – Current

*Workshop Chair*

- Designed an introductory course in robotics for new members of NURC
- Developed a curriculum to teach these students embedded programming, circuitry, PWM, CAD and motor control
- Maintain and advise club activities as a member of the NURC Exec Board

**RoboBrawl** Jan. – March 2020

*Manufacturing Lead*

- Managed manufacturing for four five person teams to ensure battle-readiness by competition date.
- Programmed microcontroller in Arduino C++ to link a PS4 controller to the differential and weapon drive of battlebot.

**Design Competition, Northwestern University** March – June 2018

*Team Member*

- Designed and built a semi-autonomous robot to detect/collect objects under a shroud.
- Devised, executed diagnostic tests for electrical components.

## Work Experience

**Signode Industrial Group** Glenview, IL

*Electrical Engineering Intern – Robotics* Jan. 2021 – Current

- Automated pick and place assembly line packing and palletizing
- Designed 3D printed fixtures for end effector of ABB robot arm
- Simulated assembly line and palletizing process in ABB's RobotStudio using RAPID programming

**Interactive and Emergent Autonomy Lab** Evanston, IL

*Research Assistant* Sep. 2020 - Current

- Led design and development of 30+ robots for Bayesian particle filter experiment
- Optimized IR detection to develop a more robust target detection algorithm

**Sibel Health** Niles, IL

*Hardware Engineering Intern* June – Sep. 2020

- Performed and documented mechanical life cycle testing on chest and limb sensors for FDA approval
- Validated new temperature sensor in comparison with old one using a Bland-Altmann plot
- Designed new custom battery pack for lithium polymer battery packaging

**Segal Design Institute** Evanston, IL

*Shop Trainer* Jan. – June 2020

- Trained undergraduate engineers to use the mill, lathe, waterjet, and horizontal/vertical band saw.
- Received CPR, first aid and AED certification and ensured student adherence to safety protocols

**Grain Surfboards** Amagansett, NY

*Skateboard Workshop Instructor & Woodshop Crew Member* June – Aug. 2017, June – Aug 2018

- Led workshops for custom built skateboards, hand-planes and bodyboards.
- Built for-sale furniture pieces/household items: benches, cutting boards, picture frames and mirrors.
- Drafted instruction manual for at-home construction of custom-built skateboards.

### Skills/Other/Interests

**Software:** SolidWorks, Git, OnShape, C, C++, Python, Excel, FEA analysis, Solid Edge, MATLAB, NX, PID control, RAPID, GD&T, CoppeliaSim, Docker, HTML, CSS, UNIX, Object Oriented Programming (OOP)
**Machinery:** Manual and Conversational Mill; Water Jet; Laser Cutter; 3D Printer; Lathe; Band, Chop, and Table Saw; Router; Joiner
**Other Activities:** Club Lacrosse, Practice Goalie for Northwestern Women's Lacrosse, ZBT Risk Manager and Standards Director
**Interests:** Skateboarding, Snowboarding, Surfing, Painting