

BACHELORS ROBOTICS

INTERNSHIP DATA*

TOP INDUSTRIES

1. Automobiles & Parts
2. Healthcare
3. Aerospace & Defense
4. Software & Computer Services
5. Technology Hardware & Equipment

HOURLY SALARY

Average: \$28.96

Min	Median	Max
\$20	\$28	\$50

SAMPLE HIRING COMPANIES

- Carnegie Mellon University
- Draper
- Ford Motor Company
- Gentex Corporation
- Medtronic
- NASA JPL
- Nuro
- Our Next Energy
- Seoul National University Hospital
- Stellantis
- Stryker
- Tesla

SAMPLE JOB TITLES

- Autonomy and Real-Time Planning Intern
- Design Analysis Engineering Intern
- Engineering Intern
- Manufacturing Robotics Intern
- Mechanical Engineering Intern (Robots Intern)
- Model-e Intern
- R&D Intern
- Robotics Engineering Intern

COMPANIES & JOBS TO EXPLORE**

COMPANIES TO RESEARCH

- Akervall Technologies
- Amazon Robotics AI
- Aptiv
- Aurora Flight Sciences
- CapSen Robotics
- Delphi Automotive
- Dephy Inc.
- Honda R&D
- HOVER Inc.
- IHMC
- iRobot
- Magna Autonomous Systems
- May Mobility
- McKinsey & Co.
- Naval Research Lab
- Qualcomm Autonomous Driving
- SoarTech
- Toyota Research Inst.
- Treetown Tech
- TuSimple
- Voxel51
- Waymo
- Wing
- X, the moonshot factory
- Zoox

POTENTIAL JOB TITLES

- Application Consultant
- Applied Scientist
- Artificial Intelligence Engineer
- Automated Driving Engineer
- Autonomy Engineer
- Computer Vision Engineer
- Controls Engineer
- Data Scientist
- Engagement Manager
- Feature Development Engineer
- Machine Learning Specialist
- Perception Algorithm Engineer
- Research Engineer
- Research Scientist
- Robotics Controls Engineer
- Software Developer
- Software Engineer
- Technical Program Manager

*Since this program was created in Fall 2022, Michigan Engineering does not have post-graduation data from BSE Robotics students at this time. This data comes from Michigan Engineering's Academic Year 2023 Internship Survey.

**Since post-graduation data is unavailable, suggestions for future exploration of full-time employers and job titles are provided by the following site: majors.engin.umich.edu/program/robotics/

For networking purposes, visit robotics.umich.edu/people/alumni/ to view departmental alumni information.

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SAMPLE ELEVATOR PITCH

Hi, I'm {Name}. I'm a junior studying Robotics and I'm interested in your automation engineer internship.

Through my coursework in Robotics, I have learned how robots sense, reason, act and interact with humans, across both hardware and software. I have also been active as a Robotics Outreach Ambassador for the last year, where I enthusiastically promote the field and educate others on the possibilities for robotics to change everyday life.

I'm pursuing work in manufacturing robotics and hope to apply the skills I've learned to help solve issues in automation. Can you tell me about the types of problems that your company works on?

SAMPLE IMPACT STATEMENT

Before - Designed and coded controller for mobile robot

After - Researched solutions for an assistive device, tailored to address the specific mobility challenges faced by study participants, through interviews and in-person research testing

KEY COURSES

ROB 101 – Manipulate the vast amount of data that robots create and act on through matrices and computational linear algebra.

ROB 102 – Reading and processing sensor data, feedback control, graph search algorithms, and image classification using machine learning.

ROB 204 – Socially engaged and human-centered design, designing for humans, human-robot communication, situation awareness and trust for automation design, user interface design.

ROB 310 – Testing and debugging analog and digital circuits, circuit board prototyping and design, interpreting data.

ROB 311 – Mechanical design, control, fabrication, actuation, instrumentation, and computer interfaces.

ROB 330 – Dead reckoning from odometry, sensor modeling of LIDAR and IMUs, simultaneous localization and mapping, semantic scene understanding, and deep learning methods.

KEY SKILLS

Hardware - Design and fabrication including modeling, 3D printing, CNCs, shop tools

Software - Code and test software to utilize sensor data and create smart machines

Electronics - Design and print circuits, testing components, soldering

Controls - Model and implement code that controls complex automated systems

Human-Robot Interaction - Define usability and system design that meets human needs

SAMPLE EXTRACURRICULARS

Robotics Undergraduate Student Council (RUSC)

FIRST Alumni & Mentors Network at Michigan (FAMNM)

Design Teams - Autonomous Aerial Vehicles, Autonomous Robotics Vehicle, Mars Rover, M-Fly, Neuroprosthetics, Robosub, STARX, UM::Autonomy, VEX Robotics

Robotics Outreach Ambassadors

GENDiR (Gender Diversity in Robotics)

