ALEXANDER BESCH

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Portfolio (https://alexanderbesch.github.io)

EDUCATION

University of Minnesota, Minnesota Robotics Institute   **September 2023 – March 2025**

Master of Science, Robotics

Cumulative GPA of 3.81

University of Minnesota, College of Science and Engineering   **September 2020 - June 2023**

Bachelor of Mechanical Engineering, Mechanical Engineer

Cumulative GPA of 3.83, Dean's List, Graduated with Distinction

EXPERIENCE

PAR Systems

Field Service / Controls Engineer – Life Sciences   **May 2024 – Present**

- Designed, programmed, tested, commissioned, installed, and maintained a variety of automation equipment with a wide array of features including HMI, robotic arms, SCARA robots, computer vision, servos, pneumatics, and barcode readers
- Created and executed machine tests to ensure products met rigorous reliability, safety, regulatory, and customer standards
- Constructed positive relationships with clients and ensured high levels of satisfaction
- Developed and delivered customized training programs and documentation for customers, empowering them to effectively operate and troubleshoot automation systems
- Assisted with integration of AI/LLMs into business workflows while maintaining data security
- Completed master's capstone project exploring integration of machine learning for document checking and verification

University of Minnesota

Teaching Assistant – Robotics, University of Minnesota, Twin Cities   **January 2024 – May 2024**

- Created, revised, and graded examinations to accurately reflect students' knowledge of course material
- Conducted lectures to review previous exams and answered questions to promote student success
- Interacted with students to create a classroom environment that fit individual learning needs

ArchKey Solutions

Engineering Intern – ProKey Facilities   **May 2022 – May 2024**

- Assisted with procurement, programming, and installation of mechanical equipment and controls systems for large-scale commercial buildings
- Designed pre-functional and functional commissioning tests based off controls documentation and schedules for various mechanical equipment
- Streamlined project management processes using Python and Microsoft VBA
- Supervised first year intern throughout summer program and provided feedback, and coaching

AutoCAD Specialist Intern – ArchKey Technologies   **February 2021 – May 2024**

- Facilitated change management through maintenance of AutoCAD blueprint database in conjunction with physical site changes
- Assisted the planning, logistics, and project management of various multi-million-dollar construction projects from beginning to end
- Identified equipment needs and procured necessary materials

SKILLS

Languages: Rockwell Automation, RSLogix, C#, VisualBasic.NET, Python, C++, MATLAB, JavaScript

Tools/Libraries: PyTorch, TensorFlow, LangChain, W&B, Git/GitHub, Ultralytics, OpenCV

Software: FactoryTalk ViewStudio, Studio5000, Cognex VisionPro, AutoCAD Electrical, Microsoft Office, SolidWorks, Creo, Visio, Bluebeam

Operating Systems: Windows, Linux, MacOS

Robots: Fanuc, Epson, Universal Robots

Other: Intuitive HMI Development, PLC Programming, Electrical Schematic Design, Ethernet I/P, Llama, OpenAI API