Robotics & Automation Engineer – Additive Construction (3D Concrete Printing)

Requires travel to various project locations.
Supervised By: Director of Innovation & Technology
Position Type: Full-Time

About FMGI

FMGI is transforming the delivery of retail and commercial buildings through advanced construction automation. Our work brings together robotics, large-scale 3D-printed concrete, advanced cement chemistry, and high-efficiency building systems to redefine how structures are designed and built. In collaboration with leading industry partners, we develop cutting-edge robotic technologies and proprietary printable concrete materials engineered for consistent, high-performance results in real-world field conditions.

Position Overview

FMGI is seeking a Robotics & Automation Engineer to design, develop, and deploy mechanical and automated systems that advance our construction robotics and 3D printing technologies. This role requires strong technical depth across mechanical, electrical, and software domains, along with the ability to take projects from concept through field implementation. While previous construction experience is not necessary, applicants must be comfortable working in active job-site environments and providing hands-on support for systems currently in use.

Key Responsibilities

Research & Development

- *Develop mechanical subsystems, end-effectors, and structural components for robotic and automated construction equipment.*
- *Perform engineering analyses to validate design performance under operational loads and environmental conditions.*
- *Generate detailed CAD models, manufacturing drawings, GD&T specifications, and BOMs for prototype and production builds.*
- *Design mechanisms and assemblies that interface with actuators, sensors, cable routing, pneumatics/hydraulics, and industrial control hardware.*
- *Contribute to the development and implementation of automation and mechatronic solutions, including basic control logic.*
- *Support continuous improvement of quality control procedures and testing workflows*

Field Operations Support

- *Assist FMGI's 3D Concrete Printing team during active print operations.*
- *Troubleshoot deployed systems, diagnose mechanical or automation issues, and iterate designs based on real-world performance feedback.*
- *Support ongoing improvements to reliability, safety, and operational efficiency.*

Safety & Compliance

- *Follow FMGI's safety protocols and participate in site safety audits.*
- *Ensure adherence to relevant standards, specifications, and internal procedures*

Qualifications

- *2+ years of experience in mechanical design, automation, robotics, or related product development roles.*
- *Advanced proficiency in CAD software (e.g., SolidWorks, Inventor, or similar).*
- *Experience with 3D concrete printing (3DCP) is a strong plus.*
- *Experience with KUKA robotic systems is a plus.*
- *Working knowledge of programming (Python, C++, or similar).*
- *Bachelor's degree in Mechanical Engineering, Mechatronics Engineering, Robotics Engineering, or a related field; Master's or PhD preferred.*
- *Ability to work in field environments and lift up to 50 lbs.*
- *Strong organizational, analytical, and communication skills.*