Job Posting:

Position Title: Robotics Engineer

Location: State College, PA

Reports To: VP of Engineering and Product

FLSA Status: Full-Time, Exempt

Compensation:

- $85K to $120K+, commensurate with experience
- Health, dental, and vision insurance, matching 401K
- Equity participation
- Paid time off

About X-Hab 3D

X-Hab 3D is redefining how the world builds. Traditional construction can't keep up — labor shortages, slow processes, and fragmented workflows are delaying projects and driving costs through the roof.

Our answer: automate construction. Our flagship product is a compact, mobile, semi-autonomous 3D concrete printing system that turns digital designs into full-scale structures directly on site — walls, buildings, infrastructure, even artificial reefs. No forms. No slabs required first. No waiting on someone else's schedule.

Engineered to meet the extreme requirements of the U.S. military, our system is built to thrive where other equipment fails — remote terrain, harsh climates, tight sites, and disaster zones. It's reliable, precise, and fast. Contractors get speed and cost efficiency. Developers get predictability. Communities get affordable, resilient structures.

With robotics, integrated software, and emerging low-carbon concrete alternatives, we're unlocking a new model of construction that scales — sustainably — from rural housing to urban redevelopment.

At X-Hab 3D, we're building a culture where initiative wins, ideas matter, and small teams do big things. We're looking for builders who punch above their weight, take ownership, and want to be part of creating something exceptional.

Position Summary

- Transform prototypes into robust production systems — improve reliability, manufacturability, assembly workflows, and field serviceability.

- Scale our robotic platform intelligently — develop documentation, standard work, test protocols, configuration control, and validation pipelines.
- Evolve the machine — improve robotic arm behaviors, tool-changing capabilities, sensing, actuation, autonomy, and system resilience.
- Design for hell — systems must thrive on construction sites, bases, remote terrain, disaster zones, and extreme climates.
- Collaborate tightly across disciplines — robotics, controls, software, materials, mechanical, manufacturing, and field ops.
- Turn real operator feedback into product improvements — listen, adapt, deploy, and repeat.
- Run testing that matters — integration bench, field trials, regression systems, environmental validation, operator UX validation.
- Document like it matters (because it does) — build the playbooks, configuration docs, assembly manuals, QA checkpoints, and operating standards that allow us to scale without chaos.
- Ship robots to customers who depend on them — then make the next generation better… every single sprint.

Why This Is Different

Most robotics roles optimize for: "How smart can we make it in ideal conditions?"
We optimize for: "How well does it work at 5am, covered in dust, operated by a sleep-deprived crew in the rain?" That difference changes everything — especially the engineering.

Key Responsibilities

- Support the design, development, and refinement of robotic systems for heavy-duty 3DCP construction platforms.
- Support the transition of robotic components from prototype to full-scale commercial production.
- Participate in the development and integration of new robotic capabilities.
- Ensure system robustness, reliability, and usability in harsh construction environments.
- Collaborate with systems, software, and materials engineers to optimize the integration of robotics with the full 3DCP system.
- Translate customer requirements, workflows, and feedback into practical robotics-driven solutions.
- Support product testing, field trials, and validation to ensure solutions meet performance, safety, and customer satisfaction standards.
- Provide thought leadership on the future of robotic construction equipment and influence the company's technology roadmap.
- Oversee documentation, compliance, and manufacturability of robotic subsystems.

Required Qualifications

- Bachelor’s or master’s degree in Robotics Engineering, Mechanical Engineering, Mechatronics, or a related field.
- 3+ years of experience in robotics design and development, with a focus on heavy-duty or construction equipment.
- Proven expertise with robotic arms, end-effectors, and mobile robotic platforms.
- Experience designing for rugged environments, ensuring durability, safety, and reliability.
- Strong knowledge of control systems, sensors, and automation technologies.
- Hands-on experience with rapid prototyping, integration, and field testing.
- Strong problem-solving and project management skills.
- Must be authorized to work in the U.S.
- Travel as needed by business requirements.

Preferred Qualifications

- Experience with 3D printing technologies, especially large-scale concrete printing.
- Familiarity with quick-change tool systems, welding automation, or material handling robotics.
- Knowledge of hydraulics, pneumatics, and power systems for mobile platforms.
- Background in customer-facing roles or field service for construction equipment.
- Experience working in a startup or fast-paced product development environment.
- Understanding of construction industry regulations, safety standards, and certifications.

What We Look For

- Customer-driven mindset with a passion for solving real-world problems.
- Entrepreneurial spirit and adaptability to thrive in a startup environment.
- Collaborative, cross-disciplinary team player who values input from diverse perspectives.
- Innovative thinker with the ability to balance creativity and practicality.
- Resilient and resourceful, comfortable working in dynamic and challenging conditions.
- Excellent communicator, able to translate technical concepts for non-technical stakeholders.

How to Apply

Please submit the following to careers@xhab3d.com

- Resume
- Cover letter describing your background, including relevant hands-on experience, and why you are the right candidate