



LAUNCHCLOUD LABS

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Position Description: Software Engineering Intern – Full-Stack R&D

Project(s): FirstLight | EventHorizon (FLEH) & LaunchCore Command

Company: LaunchCloud Labs (LCL)

Location: Remote / Distributed (Viera East, Florida HQ)

I. Corporate Overview & Mission

LaunchCloud Labs (LCL) is an R&D laboratory specializing in the "Cloud to Chip" lifecycle. We engineer sovereign, integrated systems that bridge the gap between edge hardware, artificial intelligence, and enterprise software platforms. Our mission is to build the future of autonomous systems and financial infrastructure.

II. Role Objective & Learning Outcomes

The Software Engineering Intern will be a dual-track contributor, working across the medical AI stack of the **FLEH** device and the enterprise-grade **LaunchCore Command** platform. This role is designed for students seeking to master **Full-Stack R&D**, from low-level edge data processing to high-level cloud architecture.

Primary Learning Outcomes: The intern will gain applied experience in real-time data streaming, Medical NLP, secure API architecture, and sovereign DevOps. They will learn to build scalable, high-performance systems that operate reliably in mission-critical environments.

III. Core Responsibilities

- **Full-Stack Development:** Contribute to both front-end (React/Next.js) and back-end (Node.js/Python/FastAPI) components of the LaunchCore Command stack. Focus on building intuitive, responsive dashboards for real-

time monitoring.

- **Medical AI Integration (FLEH):** Assist in developing and refining the software bridge between the FLEH edge hardware and the clinical AI engine. Work on optimizing data pipelines for real-time speech-to-text and medical narrative generation.
- **Real-Time Data Streaming:** Implement and optimize WebSocket or gRPC-based streaming protocols to ensure seamless data transit between edge nodes and the central command center.
- **API Architecture & Interoperability:** Assist in building secure, RESTful APIs and implementing SMART on FHIR protocols for clinical interoperability. Ensure data structures are consistent across the entire product ecosystem.
- **Sovereign DevOps:** Participate in maintaining our self-hosted infrastructure. This includes managing internal repositories, deployment scripts, and automated testing pipelines.
- **The "Fixer" Workflow:** Utilize modern AI tools (LLMs, static analysis) as force multipliers for rapid debugging, unit testing, and code generation. Maintain a high velocity while ensuring code quality and system integrity.

IV. Technical Profile & Requirements

- **Academic Standing:** Currently enrolled in a Computer Science, Software Engineering, or related university program.
- **Core Languages:** Proficiency in at least two of the following: JavaScript/TypeScript, Python, Go, or Rust.
- **Full-Stack Literacy:** Familiarity with modern web frameworks (React/Vue/Next.js) and back-end environments (Node.js/Ubuntu Linux).
- **Systems Thinking:** Ability to understand how data flows through a complex system—from a physical sensor on an edge node to a persistent cloud database.
- **In-House Philosophy:** A strong preference for building sovereign, self-hosted solutions over relying on third-party SaaS dependencies.

V. Academic Supervision, Evaluation, and Deliverables

This internship is designed to satisfy university practicum and capstone requirements. LCL will coordinate with faculty advisors to ensure all academic criteria are met.

- **Supervision & Mentorship:** The intern will report directly to a designated Lead Architect who will provide ongoing technical mentorship and project oversight.
- **Technical Portfolio:** The intern will compile a portfolio of their contributions, including documented code, system architecture diagrams, and project performance metrics.
- **Structured Performance Evaluations:** Formal mid-term and final assessments covering technical skill development, project progress, and problem-solving impact.
- **Verifiable Activity Logs:** LCL will provide exportable, cryptographically stamped time and task logs via our internal operations portal.

VI. Equal Opportunity & Compliance

LaunchCloud Labs is committed to fostering an inclusive, safe, and harassment-free workplace. We provide equal internship opportunities to all applicants. All activities are conducted in strict accordance with HIPAA, OSHA, and university digital compliance standards.

