Johnathan J. Flaggs
Software & Automation
UCR, BCOE | BSME
Phone: 949.414.9545

Dear Team,

Please accept this letter and the accompanying resume as an expression of my interest in your open software position. My primary focus is high-tech development of robotic systems. Specifically, in software architecture, industrial automation, and technology consulting. I graduated from UC Riverside with a bachelor's in Mechanical Engineering. My concentration studies were completed at UC Davis in Control System Theory & Analysis. Ideally, I am seeking to contribute my knowledge and experience to a fast-paced company.

I have worked with industries including manufacturing, aerospace, medical, packaging, automotive, 3D printing, weld-tech, biotech, and digital storage. My contributions in these industries have been in robotics, industrial software development, machine vision, multi-fieldbus integration, User Interface (UI) development, source control, and much more. I am truly privileged to have the industry experience and exposure that I do; and I am honored to have worked together with some very strong teams.

I would like to reiterate my strong interest in your software position, and I look forward to an opportunity to discuss details in person. Please feel free to contact me by phone or by email if I may provide you with any additional information. Thank you for your time.

Sincerely,

Johnathan J. Flaggs

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Phone: +1.949.414.9545

Highly professional, competent, personable, and team oriented. Possesses strong problem-solving, organizational, and time management abilities. Professional references available upon request.

Education

University of California, Riverside (UCR)   **Sep. 2010-Jun. 2014**
- BSME, BCOE, Dept. of Mechanical Engineering

University of California, Davis (UCD)   **Aug. 2013-Sep. 2013**
- Controls Courses. Dept. of Mechanical and Aerospace Engineering

Professional Engineering Experience

Lead Software Architect at Essentium 3D   **Jun. 2021-Present**

Leading robotics software architecture and development for high-speed industrial 3D printers. Ensuring that our team builds a software core that is sufficiently robust, scalable, and maintainable to support the product line.

- **Lead** the design and architecture of our core software which allowed us to expand from plastic to metal printing
- **Mentoring** Jr. Engineers on approaching complex problems and upkeeping best coding standards
- **OOP** and heavy emphasis on robustness, scalability, maintainability, and patterns in C# and C++
- **Anticipate** and mitigate the impact of future design changes on the software layer
- **Design** of macro and micro software architectures which define the core product
- **Manage** and review source control on a per-commit basis

Sr. Robotics Software Engineer at Amada Miyachi   **Nov. 2019-Apr. 2020**

Developing software for Seam Sealing machines used primarily for medical and aerospace/defense customers. My contributions include:

- **Windows C# .NET** machine and vision process controls
- **Contribute** to and modernize support libraries written in C/C++
- **Machine-Vision** Calibration to establish precision robot coordinates.
- **Integration** of various real time third-party measurement devices.
- **User Interface** Allowing users to fluidly interact with the multi-threaded applications

Sr. Robotics Software Engineer at Seagate Technology   **Mar. 2017-Mar. 2019**

Developing software for cutting edge processes in digital storage technology. My contributions include:

- **Windows C# .NET** proprietary machine and vision process controls
- **Support** machine vision libraries in C/C++
- **Cognex** VisionPro API integration
- **Machine-Vision Calibration** to establish precision robot coordinates
- **Motion Control** Kinematics, pick-n-place, multi-axis coordination, Quantum HSM framework
- **User Interface** Allowing users to fluidly interact with the multi-threaded application
- **Version Control** Using SVN, TFS and Agile/Scrum using Jira
- **OOP** Heavy emphasis on encapsulation, inheritance, polymorphism, and robust design patterns

Lead Controls Engineer at Sorenson Engineering Inc.   **Sep. 2014-Mar. 2016**

Leading controls software development for high-volume manufacturing. I developed core software and worked closely with Mechanical Engineers to build proof of concept products (R&D environment).

- **Fieldbus Integration** – Integrating third-party hardware/software nodes into a controls network
- **Motion Control** – Kinematics, motor sizing, pick-n-place, multi-axis synchronization, and axis coupling
- **Vision Inspection** – Driving digital cameras (Cognex, Baumer/VeriSens) via native C++ SDKs
- **Eliminated** need for expensive camming software license and a measurement sensor.
- **Increased** machine PPM by decreasing rotor inertia ratio by 140% for tighter position control (VSIII*)*

Technical Toolset

Development Environments:

▪ RSLogix/FactoryTalk	▪ Beckhoff TwinCAT	▪ MagneMotion	▪ Fanuc Robotics	▪ Fanuc iRVision
▪ Cognex In-Sight	▪ Baumer/VeriSens	▪ Visual Studio	▪ MATLAB /Simulink	▪ SVN/GIT
▪ Atmel Studio	▪ CodeBlocks	▪ Solidworks	▪ Np++, Sublime	▪ Brackets

Development Languages:

▪ PLC: ST, SFC, FBD, LL	▪ Embedded: C/C++	▪ Web: HTML, CSS, JS
▪ Windows: C#, BAT	▪ Robotics: TP, TP++	▪ Prototyping: MATLAB