

Jeffery Grafe

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JeffGrafe.com | [LinkedIn](#)

Software Engineer

Highly skilled Software Engineer with a robust background in Java, Python, C#, C++, TypeScript, and JavaScript.. Expertise spans Industrial automation, database management, and web development. Ability to design and implement advanced user interfaces for 3D printing and additive manufacturing systems, develop sophisticated sensor systems for industrial applications, and collaborate with cross-functional teams to deliver high-quality products. Proficient in project management tools including Git, Jira, Scrum, and Kanban, and experienced in industrial operations as a Fiber Line Operator and Sinter Operator, driving the production of high-performance materials for diverse applications.

Technical Skills

Programming:	Python, Java, C#, C++, Typescript, and JavaScript.
Web Development:	Responsive Web Design and React component developer.
Database:	DBMS, Query Writing, SQL, Table Creation and Modification, NoSQL, MySQL, PostgreSQL with TimescaleDB.
Industrial automation:	Ignition Perspective, Process Control, Data Collection, and Scripting.
Project management:	Git, Jira, Scrum, Kanban, and Teamwork.
General skills:	Computer Science, Problem Solving, and Communication.

Professional Experience

- Directed, developed, and delivered an end-to-end software application tailored to client specifications, enabling automated processing of laser sensor data for operators.
- Planned and implemented user interfaces, ensuring a seamless and visually appealing experience for customers interacting with our innovative 3D printing and additive manufacturing solutions.
- Designed, developed, and maintained innovative software solutions that drive the functionality and performance of our advanced 3D printing and additive manufacturing systems, contributing to the ongoing evolution of our industry-leading technology.

Education

Bachelor of Science (BS) in Computer Science

Rhode Island College

January 2021 - May 2023

Associate in general studies

Community College of Rhode Island

September 2015 - December 2020

Allium Engineering | North Billerica, MA

April 2024 – October 2024

Software Engineer

Designed, developed, and delivered an end-to-end software application tailored to client specifications, enabling automated processing of laser sensor data for operators.

- Engineered complex mathematical computations, data visualization, and an intuitive GUI using Python with Poetry.
- Built robust C++ applications using CMake and vcpkg for seamless controller communication and real-time sensor data acquisition.
- Initially utilized pybind11 for integrating Python and C++ but transitioned to Qt for the final product to enhance functionality and user experience.
- Implemented a scalable database system using PostgreSQL with TimescaleDB to manage high-frequency sensor data efficiently.

Markforged | Waltham, MA

June 2023 - November 2023

Front-End Developer

Designed and implemented user interfaces, ensuring a seamless and visually appealing experience for customers interacting with our innovative 3D printing and additive manufacturing solutions.

- Spearheaded the development and maintenance of React components in Storybook, elevating the user interface to new levels of functionality and visual appeal.
- Orchestrated seamless collaboration within cross-functional teams, fostering constructive collaboration among designers, product managers, and fellow developers to consistently deliver high-quality products.
- Executed the implementation of responsive design strategies, guaranteeing a flawless user experience across various devices, and ensured cross-browser compatibility to enhance accessibility and user engagement.
- Played a pivotal role in code reviews, offering constructive feedback to fellow developers, contributing to a culture of continuous improvement and code excellence.

Markforged | Billerica, MA

September 2022 - May 2023

Software Engineer

Designed, developed, and maintained innovative software solutions that drive the functionality and performance of our advanced 3D printing and additive manufacturing systems, contributing to the ongoing evolution of our industry-leading technology.

- Built applications for manufacturing process control operations and data collection.
- Wrote queries with the application to add/update data in SQL database.
- Wrote Python scripts to modify the behavior of the application.
- Used responsive design practices to make the UI suitable for multiple devices.
- Wrote SQL to modify tables in the database, including creating and altering tables.
- Gained firsthand experience in software engineering, database management, and responsive design.
- Developed proficiency in SQL and Python, which enabled me to write complex queries and scripts to modify the application's behavior.

Markforged | Billerica, MA

April 2021 – November 2023

Fiber Line Operator

Oversaw and optimized the production process of advanced composite materials, ensuring the efficient operation of fiber reinforcement lines to meet quality standards and support the manufacturing of high-performance 3D printing and additive manufacturing products.

- Installed tooling and initiated fiber production when starting up machinery.
- Monitored all operational equipment and ensured optimal standards.
- Maintained tooling and equipment.
- Prepared materials for production.
- Supported in special projects.