

Seth Williams

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EDUCATION

University of South Florida | GPA: 3.83/4.0

May 2023

Bachelor of Science in Chemical Engineering

Tampa, FL

EXPERIENCE

Forge Nano

August 2023 - Present

Simulation Engineer

Thornton, CO

- Built digital twins of new production lines using Emulate3D, testing control logic and buffer strategies, reducing potential downtime by 30% before physical installation.
- Developed Python scripts to automate simulation parameter updates (downtime, cycle times, scrap), saving 20+ hours per week of manual data entry.
- Integrated simulation results with SQL databases to track KPIs like throughput, uptime, and material flow efficiency, increasing model-based predictions' accuracy by 25%.
- Collaborated with controls engineers to validate simulation data against real-time PLC signals, reducing discrepancies between simulated and actual line performance by 15%.

211 Tampa Bay Cares

January 2023 – July 2023

Software Engineer

Tampa, FL

- Implemented biometric authentication and data encryption, improving data security and lowering unauthorized access incidents by 30%.
- Created data visualization dashboards for management, enabling faster allocation of resources and improving operational efficiency by 20%.
- Analyzed service request data to identify trends, contributing to a 15% increase in program outreach effectiveness.

Mars

May 2022 – August 2022

Data Science Intern

Franklin, TN

- Designed Python-based data pipelines to clean and process sensor data from high-speed packaging lines, handling over 2 million data points per week.
- Applied machine learning models to predict scrap rates, reducing material waste by 12% on targeted lines.
- Built Power BI dashboards to visualize downtime, buffer usage, and yield trends, increasing visibility for operations leadership and supporting data-driven decision-making.
- Conducted statistical analysis recommending parameter adjustments that reduced waste variability by 18%.

Raytheon Technologies

May 2021 – August 2021

Software Engineer Intern

Andover, MA

- Developed C# and .NET applications to automate report generation, saving engineers 10+ hours weekly on manual reporting.
- Built a web-based dashboard (React + Node) to visualize real-time metrics from test equipment, improving engineer accessibility and reducing issue detection time by 25%.
- Integrated software tools with MSSQL databases, cutting manual data entry by 50% and improving cross-team collaboration.
- Wrote unit tests with XUnit, improving software reliability and reducing post-deployment defects by 15%.

PROJECTS

Arduino Obstacle-Avoiding Robot | Arduino, Tinkercad

- Directed a team of 5, overseeing hardware integration, software programming, 3D printing components and testing
- Achieved a 95% success rate in navigation by engineering a precise obstacle-avoidance algorithm using ultrasonic sensors
- Reduced development time by 15% by leveraging Tinkercad for rapid prototyping and design adjustments

LEADERSHIP

USF Data Science Club – Vice President

August 2022 – May 2023

- Directed development of club projects using Python, Pandas, scikit-learn, SQL, and cloud platforms to analyze datasets and deliver practical insights
- Organized and hosted 4+ technical workshops per semester, boosting member engagement and increasing attendance by 30%

American Institute of Chemical Engineers (AIChE) – Professional Development Chair

August 2020 – May 2021

- Lead workshops to improve the professional and networking skills of 150+ students through resume critiques, mock interviews, and elevator speech workshops to amplify the total amount of engineering students to obtain an internship by 40-60%
- Coordinate with 15 board members and 12 engineering organizations to execute online events to adapt to the Covid-19 pandemic to consistently grow the club by 5-10% each semester and provide value to the student body.

TECHNICAL SKILLS

Languages: Python, SQL, NoSQL, AQL, C, C++, C#, Java, Javascript, Typescript, HTML, CSS, Swift

Frameworks: React, Angular, Bootstrap, Node.js, Express, Flask, Material-UI, REST API, GraphQL

Tools: Git, AWS, Docker, Kubernetes, RabbitMQ, PostgreSQL, MongoDB, ArangoDB, Jira, Confluence, Firebase, Linux

Skills: Full Stack Development, Object-Oriented Programming OOP, DevOps, Infrastructure, Cloud Computing, Data Structures and Algorithms, Database Design, Software Engineering, Computer Architecture, Computer Organization, Program Design