Hector Hernandez

Chandler, AZ 85224 hhhector9@gmail.com 480-371-5537 US Citizen

Software Application Development Engineer

Results-driven software application engineer and former process engineer with extensive experience in software development, data management, and process optimization within Intel's global manufacturing environment. Proven expertise in Python, C#, SQL, and data visualization tools such as D3 and Highcharts to deliver scalable solutions and actionable insights while improving operational efficiency. Skilled in managing ETL architecture, building APIs, and leveraging advanced analytics to optimize processes, reduce defects, and support strategic decision-making.

Education

Arizona State University *Expected December 2026*
MS in Computer Science (GPA: 3.75/4.0)

- **Coursework:** Data Processing at Scale, Computer Operating Systems, Data Structures and Algorithms, Applied Cryptography, Data Visualization, Artificial Intelligence.

Arizona State University *Aug 2012 – May 2015*
BS in Chemical Engineering

Experience

Software Application Engineer *Chandler, AZ*
Intel *June 2020 – July 2025*

- Used Python to design initial data structures and plots for customers, which were implemented on EDI.com using D3 and Highcharts in Angular, improving data accessibility and enabling faster insights for end users.
- Maintained and enhanced the EDI.com website by managing servers across Intel's global locations and promptly addressing bugs and enhancements, ensuring high availability and uninterrupted support for global engineering teams.
- Enhanced table structures across the EDI.com stack to optimize query efficiencies, reducing data transfer times to under 3 seconds, which improved application responsiveness and supported faster decision-making.
- Redesigned the entire backend ETL pipeline by migrating from Python and Oracle/PLSQL to C# and SQL Server, delivering significant cost savings while improving scalability and long-term maintainability.
- Designed and deployed modern ETL pipelines on EDI.com using Python, Airflow, SQL Server, and Docker, increasing automation, improving reliability, and reducing manual intervention in backend workflows.
- Collaborated within the EDI.com development team through regular code reviews and adherence to strict Python coding standards and best practices, improving code quality, reducing defects, and strengthening long-term maintainability.

Photolithography Process Engineer *Chandler, AZ*
Intel *June 2015 – May 2020*

- Sustained and improved Photolithography processes to meet manufacturing demand for throughput, cycle time, and yield.
- Improved quality levels by reducing scrap, minimizing yield loss mechanisms, and enhancing process control.
- Identified and executed cost-reduction solutions aligned with factory budget goals.
- Collaborated with Manufacturing, Maintenance, and Process teams to optimize the overall photolithography area, working extensively with both Nikon and ASML scanners.
- Reduced defectivity mechanisms through targeted engineering solutions and tighter process control.
- Developed and deployed automation tools, including 1-click reports, SQL queries, JSL scripts, and Python scripts to extract, process, and visualize large datasets from legacy and modern systems.
- Trained and mentored multiple new engineers, providing hands-on guidance to help them understand semiconductor equipment and processes, accelerating their ramp-up in the photolithography area.

Technologies

Languages: Python, C++, C, Java, JMP, C#, SQL, JavaScript, TypeScript, Git

Python Libraries: Pandas, NumPy, Matplotlib, Plotly, FastAPI, Flask, SQLAlchemy, psycopg2, Requests, LangChain, spaCy, scikit-learn, VADER Sentiment

Technologies: .NET, Microsoft SQL Server, PostgreSQL, Oracle, Angular, VS Code, Visual Studio, GitHub, Jira