

Nicolas Hernandez

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Highlights

- Designed and physically built electromechanical automated devices for sophomore and senior projects.
- Employed elements of electrical & controls engineering, process engineering, and trades work at my first job.
- Self-developed to carry out manufacturing root cause analysis, team supervision & management, technical communication, automotive customer service, and adherence to changing standards at my second job.
- Learned & professionally applied full-stack Web application software engineering, in a career skillset expansion beyond my formal education in mechanical engineering.

Education

B.S. Mechanical Engineering

May 2017

Georgia Institute of Technology, Atlanta, GA

A.S. Physics

May 2014

Dalton State College, Dalton, GA

Professional & Academic Experience

Georgia Institute of Technology, Mechanical Engineering Curriculum

- **Creative Decisions & Design, Fall 2015** – Custom-built, programmed, and machined components for robotic devices that achieved assigned competition goals, all done in a team setting.
- **Experimental Methods, Spring 2017** – Used sensors & measurement devices to acquire data sets to then find performance parameters, system conditions, and maintenance & engineering implications.
- **Energy Systems Analysis & Design, Spring 2017** – Designed and reported ROI metrics for a concentrated solar power system made from the ground up, heavily incorporating scientific principles and using price quotes obtained from actual supply vendors.
- **Mechanical Engineering Capstone Design, Spring 2017** – Created an electromechanical safety braking system in a team-based setting. Project commissioned & overseen by Emrgy, Inc.

Kobayashi American Manufacturing, Production Engineering Technician – October 2017-December 2018

Support production & maintenance processes while driving continual improvement, using and learning principles of trades work & process engineering.

- Studied & designed implementation for a working **Internet of Things** system.
- Wired and programmed control electronics for manufacturing systems, including **PLCs/PACs** (**Allen-Bradley, Siemens, Omron, Mitsubishi, Opto22**), HMIs, and physical control elements (contactor relays, VFDs for 3-phase motors, operator controls, etc.).
- Learned manufacturing processes & product needs from multiple levels of analysis.
- Communicated with vendors and end-user personnel to specify project needs.
- Performed manual maintenance & otherwise unassigned support tasks for company infrastructure.

Gestamp Chattanooga I, Quality Engineer – December 2018 - February 2020

Drive quality processes in an automotive manufacturing environment.

- Employed **root cause analysis & technical communication across departments** to diagnose and rectify the manufacture of defective products.
- Supported & **managed floor-level sort teams** for defective product containment, across multiple facilities.
- Provided a point of communication for external customer concerns and internal quality criteria.

Revature, Full Stack Software Engineer – September 2020 - January 2021

Create full-stack Web development projects to learn & demonstrate enterprise-level skill in a lightning-fast environment for learning & using modern end-to-end Web development technologies.

- Created Web applications both individually and in teams of varying sizes.
- **Applied self-directed learning** of various technologies to meet project requirements effectively.
- Provisioned cloud infrastructure & automated continuous integration/continuous development pipelines.
- Composed technology stacks with varying levels of abstraction from base Java, SQL, ORMs, and front-end technologies.
- Led part of a large-team project as our front-end lead.

Truist Bank (through Infosys), Software Engineer & Developer – Began February 2021

Engineer enterprise software applications from scratch.

- **Programmed & quality tested** primary functionality for several Java Spring Boot services.
- Collaborated in a large development team to deliver on changing requirements.
- **Composed several technologies** to meet project delivery needs.
- Used Agile development practices & extensive work order tracking to help meet deadlines.
- Provided application design counsel at the request of leadership, as I became a primary subject matter expert for areas of our overarching application.
- **Self-directed work** when features weren't ready for development, such as by providing optimizations, code review, self-directed research to facilitate future work, and issue callouts & fixes.

Skills

Instrumentation: Assembly & Wiring for Sensors & Control Units, General Mechanic & Electrician Tools, incl. Electric Testing (Multimeter, Oscilloscope, Function Generator), Physical Wire Running in Industrial Control Panels (measuring, wire stripping, labelling, applying terminal connectors, securing electrical contacts), Part Machining (Mill, Lathe, Power Tools)

Controls & Computer Software: Industrial Controller Programming (PLCs/Ladder Logic & PACs from Siemens, Allen-Bradley, Omron, Mitsubishi, Opto22), Basic Mechatronics Integrated Controls (LabVIEW, MyDAQ, MyRIO), CAD, Microsoft Office, MATLAB

Software Engineering & Web Development: Java 8 & Java 17 core, Maven, Spring Boot, Hibernate ORM, JDBC, SQL databases (Postgres with PL/pgSQL), Amazon Web Services, Distributed Systems (service-oriented architectures & microservices), Git, Apache Tomcat, Jenkins CI/CD, Docker, Kubernetes, Redhat OpenShift, JUnit, Log4J, HTML/CSS/JavaScript, TypeScript, Bootstrap, React, Redux, Angular, SAST Scanning & Code Linting (VeraCode & SonarQube), Jest, Postman, Rally by Broadcom, Agile-Scrum Software Development

Engineering Design: Team Design & Prototyping, Drafting & Design Documentation, Return on Investment Justification, Market Research, Technical Research, Vendor & End-User Correspondence, Technical Writing

Analysis: Electrical/Mechanical/Software Troubleshooting, Blueprint & Schematic Reading (incl. Electrical Schematics), Goal-Oriented Experimentation, Mechanical Stress Analysis, Safety & Failure Mode Analysis, Thermodynamic & Fluid Analysis, Circuit & Signal Analysis, Automation & Control System Analysis & Implementation