

Zach Nichols
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Objective:

Driven, reliable, and creative Software Developer seeking to use proven C#, .NET, and SQL skills to deliver unique solutions for Software Engineering Professionals.

Education:

- **Eleven Fifty Academy, Software Development Immersive Learning Program, Indianapolis, IN, February 2022**
 - 6-month immersive learning program for Software Development taught with industry-guided curriculum, real-world project-based learning, and 200+ hours of logged coding time and training.
- **Purdue University, Master of Science in Engineering Management, West Lafayette, Indiana, May 2018**
- **Purdue University, Bachelor of Science in Civil Engineering, West Lafayette, Indiana, May 2017**

Competencies & Functional Skills:

Problem solving, troubleshooting, creativity, visual communication, customer service, critical observation and thinking, organization, Agile methodology, portfolio development, addressing and resolving business challenges

Technical Skills:

Languages/Libraries: C#, ASP.NET, SQL, C/Robot C, Python, Objective C, MATLAB, and Java

Cloud Technologies: GitHub

CI/CD: Agile, Scrum, Git

Databases/ORM: SQL Server, Relational Databases, Entity Framework

Web Technologies: HTML, CSS, APIs, MVC, Bootstrap

Testing Tools: MSTest

Technical Projects:

- ***Dungeons & Dragons* Character Creator:** github.com/znichols1131/CharacterCreator
 - Utilized C#, ASP.NET, SQL, and Postman to create a D&D API and console app for creating characters.
- **Movie Rater API:** github.com/znichols1131/AgileProject
 - Utilized C#, ASP.NET, SQL, and Postman to create an API for rating Movie/TV content.
- **Gold Badge Challenges console apps:** github.com/znichols1131/GoldBadgeChallenges
 - Utilized C# and MSTest to create a series of console apps (with unit testing) to produce restaurant menus, compare car performance, and track corporate event attendance.

Professional Experience:

Mechanical Engineer, Mussett Nicholas & Associates, Indianapolis, IN, May 2018 – October 2021

- Headed the steam distribution design for Caterpillar's Lafayette, IN campus from design development through turnkey operation. Responsibilities included pipe stress analysis, detailed pipe support designs, and on-site construction administration to ensure quality.
- Collaborated with a multi-firm design team to deliver an expedited pharmaceutical formulation suite as part of Operation Warp Speed. Responsibilities included process pipe design, utilities coordination, controls sequencing, and validation document generation.
- Secured repeat business through practical consultation and customer service for clients such as Eli Lilly, Catalent Biologics, Caterpillar, Cummins, Allison Transmission, Indiana University, Louis Dreyfus Company, and the U.S. government.
- Contributed to numerous design efforts involving HVAC, steam, hydronic, sanitary, and compressed air systems. Projects included new construction, critical equipment replacement, utility capacity studies, and corporate renovations.

Mechanical Engineering Graduate Intern, Mussett Nicholas & Associates, Indianapolis, IN, May 2017 – August 2017

- Coordinated and provided engineering validation for commercial water and sanitary systems in healthcare applications.
- Conducted a Cummins case study to reroute outdoor air intake ductwork and provide filter banks for existing air compressor equipment.
- Retroactively analyzed natural gas consumption in a Cummins facility to estimate changes in building behavior.

Mechanical Engineering Intern, Affiliated Engineers, Inc., Madison, WI, May 2016 – August 2016

- Designed and coordinated the ductwork, piping, and utilities to minimize pressure loss and noise generation for a ten-floor chemistry building for the University of Wisconsin-Madison.
- Created and maintained a Trace building model and corresponding ventilation tabulations.

Mechanical Engineering Intern, Mussett Nicholas & Associates, Indianapolis, IN, May 2015 – August 2015

- Performed thermal load calculations, equipment selection, and cost estimates for Cummins' Southern Indiana Logistics Center (SILC).
- Assisted in LEED baseline comparisons and equipment scheduling for Camp Atterbury National Guard base retrofit.

Transportation Engineering Intern, Michael Baker Jr., Inc., Indianapolis, IN, May 2014 – January 2015

- Developed VBA programs to calculate horizontal and vertical curve data and create formatted printouts.
- Delineated GIS watersheds and assisted in an on-site environmental analysis of traffic and noise on I-65 near Louisville, KY.