Nicholas A. Laviano

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SUMMARY

Software Engineering student with experience in software design, refactoring, and quality assurance. Strong foundation in UML modeling, SOLID principles, unit testing, and maintainable code. Experienced working in team-based Git workflows and delivering real client website solutions. Seeking internships in software engineering, QA, or security-focused roles.

EDUCATION

Bowling Green State University — **Bowling Green, Ohio**
B.S. in Software Engineering — *Expected Graduation: 2026*

- **GPA:** 3.75/4.00, *Dean's List*
- **Related Coursework:** Data Structures & Algorithms, Software Architecture & Design, Software Testing & Quality Assurance, Database Management Systems, Operating Systems, Network Architecture & Applications, Web Application Development

EXPERIENCE

Zone Aviation — **Elyria, Ohio**
Website Designer (Freelance) — *July 2025 – Present*

- Added SSL certificates, managed cPanel backups, and safely tested updates locally before deployment.
- Fixed broken links, updated content and images, and improved navigation and usability.
- Gained hands-on experience with WordPress, Namecheap, cPanel, and website security practices.

Chipotle — **Bowling Green, Ohio**
Certified Trainer — *June 2022 – Present*

- Trained new employees on procedures and quality standards in a fast-paced environment.
- Balanced 16+ hours/week of work with full-time coursework, demonstrating strong time management and reliability.

PROJECTS

Open-Source Unit Testing Contributions

- Wrote 10 unit tests for real Java open-source libraries (AssertJ and Apache Commons Text) using JUnit and Maven.
- Applied testing techniques including equivalence partitioning, boundary value testing, black-box testing, and mocking with Mockito.
- Contributed via forks, branches, commits, and pull requests following CI and contribution guidelines.

Chart Generator Software Design

- Designed a command-line chart generation system using use cases, UML diagrams, and sequence diagrams.
- Created a full class diagram and analyzed subsystem cohesion and coupling.
- Applied SOLID principles and design patterns to improve extensibility and maintainability.

C++ Refactoring Project

- Refactored an existing C++ codebase using catalog-based refactoring techniques.
- Applied Extract Method, Move Method, and Replace Type Code with Subclasses to improve responsibility placement.
- Introduced polymorphism and improved cohesion across multiple classes.
- Worked in a team using issues, topic branches, pull requests, and code reviews.

Autonomous Vehicle Safety Analysis

- Conducted a technical research study on autonomous vehicle safety under adverse weather and network conditions.
- Analyzed real-world case studies (Tesla, Waymo, Cruise) and system-level failure scenarios.
- Examined mitigation strategies for obstacle detection and avoidance in automated vehicles.
- Produced a comprehensive technical report synthesizing academic and industry research.

SKILLS

Languages: C++, Java, C#, JavaScript, HTML/CSS, SQL
Testing & Quality: JUnit, Mockito, Refactoring, CI, Catch2
Tools: Git, Maven, CMake, VS Code, IntelliJ, WordPress, cPanel, Namecheap, OMNeT++
Concepts: OOP, SOLID, UML, Cohesion & Coupling, Software Design, Debugging