

Edward J Heyne

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EXPERIENCE

- 2024- **APPLIED RESEARCH LABORATORIES** Austin, TX
Engineering Scientist
- Designed and delivered scalable application components by analyzing system workflows and translating complex requirements into efficient technical solutions.
 - Leveraged C++ and advanced object-oriented design patterns parallel to modern .NET development methodologies to ensure high code quality and maintainability.
 - Performed advanced troubleshooting and root cause analysis across distributed systems, ensuring high reliability and performance of production applications.
 - Designed and implemented robust DevOps pipelines using GitLab CI/CD, incorporating GitLab CI/CD Components to enable reusable, modular pipeline architecture—reducing deployment time and increasing release reliability.
 - Analyzed application workflows and implemented scalable components to improve system efficiency and support evolving business requirements.
 - Performed in-depth troubleshooting and root cause analysis across distributed environments, ensuring stability and reliability of production systems.
 - Spearheaded development of performance-critical applications in C++ on Linux platforms, utilizing Qt 5 for application development and GDAL for advanced geospatial data handling, while ensuring high code quality and maintainability through rigorous unit testing with [Google Test](#) (gtest) and [Google Mock](#) (gmock).
 - Standardized build and dependency management using CMake, improving cross-platform compatibility and developer productivity.
 - Directed project planning efforts, including sprint planning, and resource allocation across multiple initiatives.
 - Mentored engineers through code reviews, technical guidance, and career development, improving team velocity and code quality.
 - Collaborated cross-functionally with product and operations teams to align engineering deliverables with product goals.
- 2020-2024 **APPBRILLIANCE** Dripping Springs, TX
VP Software Development
- Led end-to-end software development lifecycle activities, including requirements analysis, system design, development, testing, and deployment of enterprise-grade web applications.
 - Developed and maintained backend services and database interactions, optimizing data processing and ensuring seamless integration across application layers.
 - Transformed team dynamics, driving recruitment, onboarding, and leadership efforts to cultivate a culture of collaboration and innovation, resulting in impeccable B2B software known for cleanliness, maintainability, robustness, and scalability.
 - Led full lifecycle development of enterprise web applications, including requirements analysis, system design, development, testing, and production deployment.
 - Orchestrated a cross-functional collaboration to develop a strategic product roadmap with the engineering team, resulting in a 20% reduction in product development cycle time.
 - Championed the implementation of Object-Oriented Programming software engineering best practices throughout development projects, fostering module design and code reusability resulting in streamlined development processes and enhanced code maintainability.
 - Explored and trialed diverse feature management systems, integrating Unleash to enhance development workflows; empowered the team to toggle feature activation, resulting in a reduction in deployment timelines.
 - Spearheaded the development of robust server-side REST APIs, leveraging a diverse tech stack including Python, Peewee, Redis, MySQL, and AWS services.
 - Engineered a JavaScript-based web front end from inception, exclusively employing jQuery, Handlebars templates, and native language functionalities, culminating in comprehensive unit test coverage reaching 100%.
 - Explored static code analysis tools to improve code quality; decision to implement SonarQube resulted in an increase in code efficiency and the identification and mitigation of security risks and other “coding smells”.
 - Integrated Docker into CI/CD pipelines, enabling efficient build and release processes for code repositories, accelerating software delivery cycles, ultimately improving team productivity.
 - Initiated and maintained security protocols throughout the entire architecture including the Diffie-Hellman key exchange protocol to establish and maintain a 100% no-trust architecture.
 - Authored and deployed two React Native mobile applications in close partnership with the Product Owner.

- 2016-2020 **CHARLES SCHWAB** Austin, TX
Senior Software Applications Engineer
- Engineered and enhanced enterprise web applications using C#.NET technologies, focusing on system performance, scalability, and maintainability.
 - Collaborated with cross-functional teams to gather requirements, resolve production issues, and implement enhancements aligned with evolving business needs.
 - Led the strategic enhancement of a home-grown C# .NET marketing application team, fostering collaboration between onshore and offshore team members to implement best practices, resulting in an increase in application performance and scalability.
 - Enhanced the marketing application through the implementation of cutting-edge technologies, such as the MS Entity Framework and JavaScript Framework Knockout and CSS Framework Bootstrap, resulting in enhanced performance and user experience.
 - Designed and optimized backend services and database operations, including complex SQL queries and stored procedures, to support high-performance application functionality.
 - Pioneered the integration of unit testing methodologies, fortifying the overall quality of the software.
 - Spearheaded security scans using Veracode for the marketing application, identifying and remediating application security flaws to meet SOC compliance standards and enhance overall security posture.
 - Implemented automated build, deploy, and security scan jobs using Jenkins and BitBucket, resulting in a reduction in deployment time and decrease in security vulnerabilities detected during scans.
 - Completed the esteemed Schwab Aspiring Leaders Program (ALP) to prepare for elevation to Senior Manager, Software Development Engineering position; cultivated leadership prowess and strategic acumen to lead cross-functional teams and deliver transformative business solutions.
- 2012-2016 **VIRTUAL HOLD TECHNOLOGY** Akron, OH
Senior Software Developer
- Designed and implemented web-based application features, ensuring efficient data flow, usability, and adherence to software development best practices.
 - Analyzed existing systems and introduced improvements to optimize performance and support evolving functional requirements.
 - Evaluated existing systems and introduced enhancements to improve efficiency and support changing functional requirements.
 - Developed a cutting-edge configuration management system incorporating HTML, CSS w/LESS, and JavaScript w/Backbone, improving workflow productivity and reducing user errors.
 - Redesigned an existing proprietary web front end utilizing Ember.js and Backbone.js with Marionette.js JavaScript frameworks; Included AJAX calls to interact with a Ruby service as the back-end data gathering API.
 - Architected an advanced Acceptance testing framework in Ruby utilizing Cucumber, Watir, and Page-Object gems for a Web "Dashboard"; improved developer oversight of backend system by 50%.
- 1999-2012 **PROGRESSIVE INSURANCE INC.** Mayfield Heights, OH
Software Developer Lead
- Led development of large-scale enterprise applications, translating business requirements into robust technical solutions within a structured development lifecycle.
 - Supported and enhanced mission-critical systems through continuous improvements, defect resolution, and performance optimization.
 - Revolutionized an antiquated Workflow Engine into a state-of-the-art data brokerage and contact routing SOA application using Microsoft Windows Workflow Foundation (WF); bolstered operational flexibility and slashed error rates.
 - Directed a cross-functional team to connect SOA with an outbound dialing system, leading to an increase in call conversion rates and a decrease in operational costs.
 - Technical lead on a large-scale project to interface a SOA application with the Policy Servicing applications. Released to over 12,000 call center representatives and 1,000 Information Technology employees.

EDUCATION

- 2014-2016 **THE UNIVERSITY OF AKRON** Akron, OH
Master of Science, Computer Science
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PERSONAL PROJECTS

Blast — Self-Hosted Social Broadcaster | 2025 React 18 (MVVM architecture) · Node.js · SQLite · Claude AI · Docker

Built a self-hosted multi-platform broadcaster that simultaneously publishes to 12 platforms including SMS, WhatsApp, X, Instagram, LinkedIn, and more. Architected a zero-npm-dependency Node.js proxy to securely manage API credentials and handle platform dispatching. Integrated Claude AI as a writing assistant with platform-aware rewrite variants. Implemented a SQLite job scheduler, content calendar, engagement stats, inbox fetching, and Slack notifications. Backed by ~460 automated tests across unit, proxy, and Playwright E2E suites.

Personal Website with AI Chat Assistant | 2025 HTML · CSS · JavaScript · Node.js · Claude AI · Formspree · Render

Designed and built a multi-page personal site covering portfolio, blog, resume, and contact — with no frontend framework and no npm dependencies on the backend. Integrated Formspree for Ajax form submission with field-level validation. Built and deployed a zero-dependency Node.js proxy to Render that powers a floating AI chat assistant, giving visitors instant answers about my experience and work via the Claude API.

Both projects built collaboratively using Claude as an AI development partner.

ADDITIONAL TRAINING/CERTIFICATION

Microsoft Certified: Azure Fundamentals | Issued Apr 2024 | Cred Id: 972F84240CEDD8E8

CompTIA A+ ce Certification | Issued Sep 2025

SKILLS

• C#/C++/C	• React Native	• Jenkins/Bitbucket	• SonarQube
• Python	• .NET/.NET Core	• Git/Github/GitLab	• Veracode
• PHP	• Windows/Linux/Mac	• Agile methodologies	• Redis
• Node.js	• AWS	• SOLID principles	• RabbitMQ
• Ruby	• Azure	• RESTful APIs	• MySQL/MSSQL
• Swift	• Docker/Podman	• Jira/Confluence	• MongoDB
• JavaScript/TypeScript	• Angular	• React	• PostgreSQL