

Zach Hall

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Education

Towson University

Bachelor of Science, Computer Science

Towson, MD

May 2026

- **Coursework:** Data Structures and Algorithms, Object-Oriented Design and Programming, Database Management Systems, Data Com and Networking, Mobile App Development, Discrete Mathematics, Cryptography, Calculus I and II, Statistical Methods

Technical Skills

Languages: Typescript, JavaScript, Java, Python, C++, C#, CSS, HTML, XAML

Frameworks/Technologies: Next, React, Blazor, Avalonia, Express, MongoDB, Mongoose, Supabase

Developer Tools: Visual Studio IDE, Visual Studio Code, JetBrains Rider, Git, Github, Docker, Coolify

Experiences

Mettler Toledo

Software Engineering Intern

Columbia, MD

June 2025 - Present

- Created a Blazor-based C# search engine enabling Field Service Engineers to access data 15% faster.
- Developed unit and integration tests, boosting code coverage by 50% and reducing potential bugs.
- Utilized Visual Studio IDE to debug user-reported issues and implement solutions.

Zachary Designs

Freelance Graphic Designer

Remote

June 2016 - May 2021

- Utilized design tools such as Adobe Photoshop, Cinema 4D and Blender to produce high-quality work under tight deadlines for 30+ clients.
- Created visuals that boosted engagement rates by 5% across various platforms.
- Optimized design processes, reducing revision requests by 90% and improving overall efficiency.

Projects

Towson Academic Pathway

Sept 2024 - Dec 2025

- Collaborated with a team of four to build a degree planning web application for Towson University students using the MERN stack and Tailwind CSS.
- Integrated an undocumented REST API and leveraged the OpenAI API to generate personalized degree completion plans.
- Designed and developed a customizable settings page by adapting peer implementations.

Hash Sync

Feb 2025 - Apr 2025

- Developed a C# and .NET Cross Platform Desktop Application that utilizes Avalonia UI and Supabase to automatically sync files between devices
- Engineered real-time file change detection by generating and comparing SHA-256 hashes of full directories.
- Implemented efficient directory traversal and automatic syncing, eliminating manual file transfers and improving workflow reliability.

Yearly

Dec 2024 - Feb 2025

- Developed a cross-platform mobile application using Flutter for iOS and Android.
- Implemented backend functionality using Supabase, allowing for data storage and authentication.
- Refactored code to optimize apps for performance, ensuring smooth usability