

JONATHAN TROWBRIDGE

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<https://tryhackme.com/p/masterwok>

CAREER SUMMARY

Experienced software engineer with over a decade of success building secure, scalable systems across web and mobile platforms. Currently transitioning into cybersecurity with a focus on penetration testing, backed by practical experience through the SANS Applied Cybersecurity (ACS) program, GIAC certifications (GPEN, GCIH, GSEC, GFACT), Capture the Flag (CTF) events, and TryHackMe labs. Brings a strong foundation in full-stack development, secure coding practices, and vulnerability analysis. Recognized for leadership, mentorship, and cross-functional collaboration, with a strategic approach to system design and a strong commitment to continuous learning in cybersecurity.

EDUCATION & CERTIFICATIONS

Undergraduate Certificate in Applied Cybersecurity (GPA 4.0) SANS Technology Institute	Jun. 2025
Bachelor of Science in Computer Science Virginia Commonwealth University	Dec. 2013

Enterprise Penetration Testing (GPEN) SANS Technology Institute	Jun. 2025
Security Incident Handling & Hacker Exploits (GCIH) SANS Technology Institute	Apr. 2025
Security Essentials (GSEC) SANS Technology Institute	Feb. 2025
Security Foundations (GFACT) SANS Technology Institute	Dec. 2024

COMPETENCIES & SKILLS

Languages: Kotlin, Java, C#, Python, Dart, JavaScript, TypeScript,

Development Frameworks: Flutter, Android, iOS, Xamarin, Riverpod, React, Angular, Ktor, ASP.NET, Node.js

Databases: Microsoft SQL Server, SQLite, PostgreSQL

Operating Systems: Linux, macOS, Windows

IDEs: IntelliJ IDEA, IntelliJ Rider, Visual Studio Code, Android Studio, Xcode, Visual Studio, Vim

Tools: Nmap, Netcat, Metasploit, Meterpreter, Msfvenom, Sliver, Masscan, SMBBeagle, Hayabusa, Sigma, Zeek, RITA, Legba, Hydra, Cewl, MSOLSpray, Fireprox, Hashcat, John, BeEF, Ffuf, SQLmap, Linpeas, Winpeas, PowerUp, AADInternals, Mimikatz, Responder, Impacket, NetExec, Evil-WinRM, Bloodhound, Git

PROFESSIONAL EXPERIENCE

Lead Principal Software Engineer Coinme Seattle, WA (Remote)	Sept. 2021 - Oct. 2024
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- Led the end-to-end migration of the Coinme native iOS and Android applications to Flutter, unifying the mobile codebases and significantly improving developer velocity, code reuse, and release frequency.
- Designed and implemented a scalable application architecture using Riverpod, enabling maintainable, testable, and modular code to support rapid feature growth.
- Directed key engineering initiatives including onboarding, mentorship, and team process improvements enhancing team productivity, consistency, and long-term scalability of development efforts.

Senior Full Stack Software Engineer CoStar Group Richmond, VA (Hybrid)	Jan. 2019 - Aug. 2021
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- Led development of a commercial real estate listing module for Android, along with the supporting ASP.NET Core Web API, delivering a seamless end-to-end solution used across platforms.
- Built and maintained scalable web applications with React, .NET, and Node.js, and developed a reusable .NET Core AWS push notification system adopted across the organization to support real-time, cross-platform communication.
- Collaborated cross-functionality with design, product, and engineering teams to deliver intuitive user experiences and ensure consistent, high-quality feature releases across mobile and web.

Full Stack Software Engineer | Mapleton Hill Media | Boulder, Colorado

Aug. 2016 – Feb. 2018

- Built cross-platform iOS and Android applications using Xamarin Native and Xamarin Forms, delivering custom mobile solutions across including skiing, agriculture, and logistics.
- Developed and modernized backend systems with ASP.NET and Azure Mobile App Services, including migrating monolithic APIs to modular services and implementing robust unit testing.
- Engineered real-time inventory and shipping synchronization within a cross-platform mobile application, using advanced PCL code and LINQ queries to streamline data flow across distributed devices and APIs.

Full Stack Application Developer | Worldview Solutions Inc. | Richmond, VA

Feb. 2013 – Feb. 2016

- Led implementation of claims-based authentication and user management systems for government applications, including a secure recruiting portal for the U.S. Air Force, enhancing access control and compliance.
- Developed environmental and conservation-focused modules for Virginia state agencies using Backbone, Marionette, and ASP.NET Web API, improving regulatory workflows and monitoring efficiency.
- Modernized legacy web applications, including migrating from jQuery to Dojo, resulting in improved performance, user experience, and maintainability.

PRACTICAL CYBERSECURITY EXPERIENCE & SIDE PROJECTS

Capture the Flag (CTF) Events

- Participated in the SANS GCIH and GPEN CTF events, applying knowledge of attacker tactics, techniques, and procedures (TTPs) aligned with real-world threat scenarios.
- Completed over 145 hands-on cybersecurity challenges on TryHackMe since October 2024, covering topics such as enumeration, privilege escalation, exploitation, persistence, and reverse engineering.

Full-Stack Flutter + Ktor Starter Kit | Project Bootstrap Template | Private Repository

- Built a full-stack Flutter frontend and Ktor backend as a boilerplate project to accelerate rapid application bootstrapping, supporting user registration, profile updates, and SMS-based two-factor authentication (2FA).
- Implemented JWT-based authentication and authorization, with MySQL for persistent user data, Redis for transient 2FA token storage, and GitHub Actions for automated backend deployment.
- Architected the Ktor backend using a modular, feature-based structure grounded in Clean Architecture principles and Domain-Driven Design (DDD), organizing core business logic into clearly defined use cases to enhance separation of concerns, scalability, and testability.

Bit Cast | Android Application | Private Repository

- Built a native Android application that facilitates the sequential streaming of torrent media for playback on the local device or Chromecast devices.
- Powered media playback using a custom VLC/libVLC wrapper.
- Integrated in-app torrent search capabilities, enabling users to find and stream content without leaving the application.

Maneki Torrent Search | Android Application | <https://github.com/masterwok/maneki>

- Built a native Android application that integrates with the Jackett torrent indexer aggregation engine.
- Implemented a custom Foreign Function Interface (FFI) to enable direct interop between Kotlin and a Jackett .NET Core library, offloading indexer management to the Jackett project.
- Leveraged cross-runtime communication to reduce maintenance overhead and align with upstream improvements.

Simple VLC Player | Android Library | <https://github.com/masterwok/simple-vlc-player>

- Developed a comprehensive Android media player library leveraging the core libVLC library and Open Subtitles API, facilitating seamless media playback on Android and Chromecast devices