Matthew Belisle

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Job Interests

- Pentesting
- Software engineering

Experience

- *Staff+ Security Engineer* (Jun. 2018 to present)
  Workiva, InfoSec Team (US Remote, https://wdesk.com)
    - Performed highly successful whitebox pentests against the company's web applications
    - Wrote 100+ POC exploits to demonstrate the severity of various findings
    - Developed specialized tools for pentesting non standard Thrift, GraphQL, and AMF APIs
    - Conducted realistic offensive security exercises for team training
    - Advised in the architecture of authentication and authorization systems
    - Directly implemented security fixes in many Java, Go, Python, and NodeJS applications
- *Senior Software Engineer* (Mar. 2012 to May 2018)
  Workiva, R&D Team (Bozeman MT, https://wdesk.com)
    - Wrote a Thrift server in Java that integrates with Microsoft OAuth2 and Fastpath Inc's REST services
    - Wrote a Thrift server in Kotlin that handles graph database API calls
    - Wrote a Python module that renders XML based charts as PDFs, SVGs, and PNGs
    - Wrote AngularJS components for an HTML5 canvas based document viewer
    - Wrote a Go package to deliver typesetting data over a REST interface
    - Migrated many services in Dart, Go, and Java from REST and Websockets to Thrift and NATS
    - Implemented OAuth2 exchanges for many apps, both browser side and server side
    - Wrote a Workiva specific JWT/OAuth2 lib from Go's stdlibs
- *Bilingual Technical Support Engineer* (Mar. 2010 to Feb. 2012)
  RightNow Technologies, Customer Care Department (Bozeman MT, https://rightnow.com)
    - Provided technical support for RNT's proprietary web framework (both PHP and JS side)
    - Provided general technical support for Japanese clients in Japanese
    - Specialized in web app security vulnerabilities, helped the development teams find and fix them
- *Full Stack Web Developer* (Dec. 2008 to Feb. 2010)
  Elance (https://elance.com)
    - Wrote django apps for real-estate companies and travel agencies

Education

- *Undergraduate* MSU Department of Computer Science (2006-2009, not graduated)
  (Bozeman, MT, https://montana.edu)
    - Cumulative GPA of 3.64
- *Foreign Exchange* Kumamoto University Dept. of Mechanical Engineering (2007-2008)
  (Kumamoto Prefecture, Japan, https://www.kumamoto-u.ac.jp/)
- *High School* The Oaks Classical Christian Academy (2002-2006)
  (Spokane, WA, https://theoakscca.org)
    - Graduated with a cumulative GPA of 3.94

Skills

- Java, Python, Go, Kotlin, HTML/CSS/JS, Dart, Android SDK, Electron, Rust and many associated frameworks
- MySQL, PostgreSQL, Sqlite, Google Datastore, Redis, Titan Graph DB, and other databases
- AWS, Google Cloud, and Digital Ocean cloud platforms
- Docker, Kubernetes, Helm, Terraform, Cloudformation, and other orchestration tools
- Apache, Nginx, Systemd, Avahi, BATMAN, package creation, and other sysadmin tools
- Ribeye steaks and crypto libraries
- POC exploitation of XSS, CSRF, SQLI, XXE, SSRF, RCE, XSHW, H2 desync, weak crypto, and many other vulns

CVE Sample

CVE-2019-13209 (RCE in Kubernetes manager via websocket hijacking)

Code Sample

https://github.com/mgbelisle/science/tree/master/paxos (paxos from scratch)