

VASIL VASSILEV

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EDUCATION

University of Utah Bachelor of Science in Software Development • GPA: 3.82/4.0

Expected May 2026

TECHNICAL SKILLS

Languages: Java, C#, C++, C, Python, Rust, JavaScript, SQL, HTML5, CSS

Frameworks/Libraries: Django, FastAPI, .NET, LINQ, React.js, Next.js, TailwindCSS

Tools & Platforms: Git, GitHub, Docker, AWS (EC2, S3, RDS), Linux/Unix, VS Code, Copilot, JetBrains, Wireshark

Security: AFL++, ASAN, Penetration Testing, Vulnerability Assessment

Concepts: OOP, TDD, REST APIs, Concurrent Programming, Database Design (ACID), CI/CD

Languages: Bilingual (English/Bulgarian)

PROFESSIONAL EXPERIENCE

Software Engineering Internship / Sponsored Project, L3Harris Technologies

September 2024 - Present

- Developing multi-chassis support for TRex Network Traffic Generator (NTG) using Rust, Python, and networking protocols (TCP/UDP) to enable distributed load testing scenarios
- Collaborating with senior engineers to extend internal network testing platform responsible for network traffic generation, packet analysis, and performance benchmarking
- Implementing configurable in-band/out-of-band data transfer profiles with GPS time synchronization for accurate timing measurements and latency analysis

Cook (Promoted from Server), Koyote Japanese Restaurant

January 2024 – June 2025

- Promoted from Server to Cook in under 3 months through demonstrated work ethic and rapid skill development
- Prepared Japanese cuisine in fast-paced environment while maintaining exceptional quality and presentation standards

PROJECTS & DEVELOPMENT EXPERIENCE

Learning Management System (LMS) Database & Application

2025

- Designed normalized MySQL relational database schema with Entity-Relationship (ER) modeling for Student, Professor, Department, and TA roles with proper foreign key constraints
- Implemented ACID-compliant transactions ensuring data integrity across complex multi-table operations
- Scaffolded database-first architecture and integrated with C# application using LINQ for type-safe queries, efficient data manipulation, optimized table structures, indexes, and query performance for scalability

Cybersecurity Vulnerability Research

2024

- Fuzz tested Stormlib C++ library using AFL++ and AddressSanitizer (ASAN) discovering 5 novel security vulnerabilities including buffer overflows and memory corruption issues
- Analyzed, triaged, documented, and reported the vulnerabilities alongside ASAN traces
- Hands-on exploitation of real-world vulnerabilities: buffer overflows, execution redirects, SQL injection, XSS attacks, hash collision attacks (MD5/SHA-1 using Fastcoll)
- Applied reverse engineering techniques and analyzed network traffic using Wireshark for packet inspection

Full-Stack Web Development

2023 - Current

- Developed responsive web applications using Next.js, React.js, HTML5, Tailwind CSS, and JavaScript with modern frontend frameworks
- Built RESTful API backends using Django and FastAPI frameworks with MySQL databases
- Deployed production applications to AWS (EC2, S3, RDS) with dynamic scaling and a CI/CD pipeline
- Implemented JWT-based authentication, session management, and role-based access control (RBAC)

Multiplayer Snake Game - Client/Server Architecture

2023

- Built fully functional TCP-based networking library from scratch in C#
- Developed game server handling concurrent client connections, game state synchronization, and collision detection
- Implemented client-side rendering, input handling, and network message serialization/deserialization
- Applied multithreading and asynchronous I/O for responsive gameplay with minimal latency

LEADERSHIP & ACHIEVEMENTS

High Level Competition Rock Climbing & Coaching

2009-2022

- Head coach of University of Utah Climbing Team in 2023 (USA Climbing 1st place National Team Ranking)
- Demonstrated unbreakable determination, resilience, and performance under extreme pressure
 - 2022 IFSC World Cups (Austria, Switzerland, France)
 - 2022 IFSC Youth World Championship (Dallas, Texas) – 4 weeks post knee surgery
 - 2021 IFSC Youth World Championships – Semifinals (Voronezh, Russia)
- Developed goal-setting strategies and mental resilience applicable to high-stakes technical challenges

R/C Car Racing & Tuning

2009-2018

- Applied engineering principles to optimize vehicle performance through:
 - Tuning/building high-performance single-piston nitromethane race engines
 - Suspension/chassis dynamics tuning based on track conditions and data analysis
 - Aerodynamic optimization, tire selection/preparation, cross-balancing techniques
 - Electric motor tuning (managing ECU/motor temperatures through custom timing curves)
 - Battery conditioning for sustained peak output
- 3x Bulgarian National Champion in 1:8 scale nitromethane truggy (2011-2013)
- 1st Place Michigan Darkside Challenge in 1:10 scale buggy open A main (2018)

Enduro/Trail Riding & Motorcycle Tuning

Since 2013

- 2x 3rd Place Michigan Sprint Enduro Series (2020)
- Developed mechanical skills in building/tuning dirt bike engines, transmissions, and suspension systems
- Hands-on experience maintaining all components of off-road motorcycles

R/C Airplane Building & Flight

Since 2015

- Designed and built remote-controlled aircraft from online plans, including complete airframe construction
- Integrated propulsion packages and servo systems for control surface actuation
- Developed attention to detail, patience, and ability to execute complex multi-system projects