

Will Domine

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EDUCATION

University of Wisconsin-Whitewater

Sep 2023 - Dec 2026

Bachelor of Science, Computer Science

- **GPA:** 3.6
- **Coursework:** Theory of Algorithms, Data Structures, Database Management, Embedded Systems, Software Engineering, Introduction to AI, Networking

PROJECTS

AVX2 Packet Filter | C++, AVX2 SIMD, io_uring | [GitHub](#)

Jan 2026 - Feb 2026

- Developed header-only C++ library utilizing AVX2 SIMD intrinsics achieving 0.76ns latency per packet with ~1.3 billion packets per second throughput, benchmarked on Intel Core i9-14900K (5.7 GHz)
- Delivered 2.44x performance improvement over scalar implementation (1.86ns -> 0.76ns) by leveraging `__mm256_i32_gather_epi32` instruction to process batches of 8 packets in parallel, minimizing cache misses
- Optimized memory layout with 32-byte aligned packet structures ensuring exactly two packets fit per 64-byte CPU cache line, reducing memory fetches and maximizing cache efficiency.
- Implemented `io_uring` based zero-copy TCP server to demonstrate filter in production environment, eliminating system call overhead and enabling high-throughput network processing.

BitMesh Gateway | Go, gRPC, Docker | [GitHub](#)

Jan 2026

- Built high-performance microservice edge router achieving 44,160 RPS with 1.12ms average latency on Linux (7x faster than baseline 6,369 RPS) using O(1) bitwise routing and zero-allocation request handling.
- Engineered thread-safe connection pool with `sync.RWMutex` and double-checked locking pattern to reuse persistent gRPC connections, eliminating TCP handshake overhead and achieving 0 B/op allocations.
- Implemented zero-allocation hot path using `sync.Pool` to reuse request contexts, eliminating garbage collection pauses during critical operations and enabling sustained high-throughput.
- Designed O(1) routing logic using bitwise AND operations on binary feature flags, replacing slow string comparisons with single-cycle bit operations.
- Containerized application with multi-stage Docker build producing 15MB Alpine Linux image and implemented YAML configuration for dynamic service routing .

EXPERIENCE

The Boldt Company

May 2025 - Present

Full Stack Engineer Intern (IT Intern)

Appleton, WI

- Migrated Power App to an internal Next.js application for executive talent management, increasing visibility of succession planning and taking full project ownership using Git and Azure DevOps pipelines
- Managed Azure cloud infrastructure by deploying services with Azure App Service and storing data in Azure SQL, which streamlined deployments and improved system reliability
- Integrated Databricks tables into data workflow utilizing Python, gaining foundational experience in large-scale data warehousing and processing.
- Analyzed and audited vehicle expense data with Python during a vendor transition, recovering 40% of overpayments
- Developed Helpdesk app integrated with Microsoft Teams using Power Apps and Azure Functions (Node.js), cutting IT ticket submission time by 50%
- Collaborated in an Agile team, conducting code reviews and sprint planning with Azure DevOps and GitHub, which helped maintain code quality and meet release deadlines

SKILLS

- **Programming Languages:** Go, C++, TypeScript, Rust, Python, Java
- **Frameworks & Libraries:** Next.js, React, Nuxt, Vue.js, Flutter, Spring Boot, gRPC, `io_uring`
- **Cloud And DevOps:** Microsoft Azure, Databricks, Git, Docker, Azure DevOps
- **Databases And Data Warehouse:** Postgres, SQL, MongoDB, Redis
- **Performance Engineering:** SIMD, Zero-Copy, Networking, Connection Pooling, Memory Alignment, Bitwise Operations

CERTIFICATIONS

- **Microsoft Certified: Azure Fundamentals: Microsoft Certified: Azure Fundamentals (Credential ID: 3DF1E0BC8BE25009)**

Languages

- English (Native)
- Japanese (Elementary - Genki I)