

Michael Placzek

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Education

DePaul University

Master of Science in Computer Science

2025

Bachelor of Science in Cybersecurity, Minor in Computer Science

2023

Projects

Dynamic Heap Allocator

- Built C++ heap allocator delivering 3.5x higher allocation throughput than the Windows baseline in x86 release stress benchmarks.
- Implemented in-heap metadata, next-fit placement, block splitting, and bidirectional coalescing in C++.
- Wrote Linux x86 benchmarks and instrumentation in C++ to validate correctness, report heap stats, and measure fragmentation tradeoffs.

XRayView

- Architected BMP X-ray workstation with Rust backend, HTMX/TypeScript frontend, and Tauri desktop shell linked in-process through Tauri IPC.
- Implemented cancellable background jobs in Rust and cached artifacts to reduce repeat-processing latency across render, process, and analysis workflows.
- Built side-by-side comparison, calibrated measurement, and tooth annotation features in HTMX/TypeScript for study review and findings capture.

SkillSwap Web Application

- Built Go/Gin REST APIs and PostgreSQL models with GORM for authentication, booking, chat, and video sharing.
- Implemented JWT authentication in Go and transactional PostgreSQL booking logic so multi-step scheduling completed consistently without partial writes.
- Dockerized the full stack and integrated Go REST APIs with the Vue.js frontend.

Work Experience

Information Technology Intern, Eli's Cheesecake Company

Chicago, IL | May 2023 – August 2023

- Increased Microsoft Secure Score by over 300% by hardening production systems, tightening access controls, and remediating security gaps, reducing security risk to daily operations.
- Troubleshoot network and endpoint issues across 20+ production systems, restoring reliable access to critical devices and services and minimizing employee downtime.
- Performed vulnerability analysis, wrote remediation plans, and supported Windows upgrades to reduce infrastructure risk and keep business systems on supported versions.

Skills

Languages: Python, Rust, Go, C++, TypeScript

Backend: Rust, Go, Gin, GORM, REST APIs, Tauri IPC, background jobs, JWT auth, PostgreSQL

Frontend / Desktop: HTMX, Vue.js, Tauri

Systems / Tools: Linux, Windows, memory management, benchmarking, cache design, Docker, Git, GitHub, CI/CD