Will Piwowarski

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Education

Liberty University Aug. 2024 – May 2028
B.S. Computer Science — Data Science & Software Engineering cognates, Honors (GPA: 3.91/4.0) *Lynchburg, VA*

- **Coursework:** Data Structures & Algorithms (C++), Applied Data Science & Machine Learning Methods, Database Design, Computer Architecture, Network Architecture & Protocols, Linux Operating Systems, Discrete Mathematics.

Experience

Software Engineering Intern May 2026 – Present
RhobotAI *Remote*

- Delivered the training tables that 20+ regression models (XGBoost, LightGBM, CatBoost, Random Forest) run against, by building the tensor-generation stage of the data pipeline behind a manufacturing optimization platform.
- Reconciled three sensor streams logged at different rates into one model-ready table, using pandas to resample onto a shared time grid with per-measurement aggregation rules and a capped forward fill that carries slow signals without inventing data across real gaps.
- Shipped full-stack features across a Vue 3 and TypeScript frontend and a Python FastAPI backend, writing the REST endpoints, the service layer, and the Postgres and InfluxDB queries underneath, deployed as Docker services behind single sign-on.

Software Engineering Intern May 2025 – Aug. 2025
i7 Consulting Group *Woodbine, MD*

- Replaced a spreadsheet timesheet process with a Vue 3 single-page app built around an editable month grid, plus admin screens for contracts, users, and categories.
- Designed the 9-table MySQL schema behind it with an append-only audit trail, so every save, submission, and approval can be traced, and exposed it through a Spring Boot REST API documented with Swagger.
- Generated approval-gated Excel invoices with live formulas using Apache POI, secured the app with Spring Security and BCrypt, and shipped it as a multi-stage Docker image behind nginx, which proxies the API and requires client certificates.

Projects

Flock | *Next.js 16, React 19, TypeScript, Prisma, Supabase Postgres, Tailwind, PWA* getflock.cc

- Shipped an installable, offline-capable PWA now serving 200+ weekly users, replacing the attendance and check-in tracking residence hall leadership had been doing by hand.
- Made cross-hall access structurally impossible in one deployment serving multiple residence halls, by routing every read through a single data layer that filters on the signed-in user's hall and adding server-only imports that fail the build if it is ever pulled into the browser.
- Wrote the attendance flow where students self check in, leaders confirm the official record, and totals roll up per hall, behind a guard checking the user is signed in, bound to a hall by secret join code, and approved by that hall's resident advisor.

Cartograph | *TypeScript, ts-morph (TypeScript Compiler API), Node.js, GitHub Actions* github.com/willpiwowarski

- Built a CLI that maps every function call in a TypeScript project through the compiler's type checker, resolving overloaded methods, renamed imports, and inherited overrides that a text search gets wrong.
- Stored the call graph as adjacency maps in both directions, making caller lookups, change-impact analysis, and shortest path between two functions constant-time queries, verified by a hand-traced regression suite in GitHub Actions that fails the build whenever the generated graph diverges.

Leadership

Technical Lead Aug. 2026 – Present
AI Club — SkyWatch AI Challenge (with Xenith Solutions) *Lynchburg, VA*

- Lead a student team building a spoofing detector for aircraft broadcasts, a protocol where any transmitter can claim to be any aircraft, flagging reports that contradict their own physics while designing around what breaks naive detectors, including coverage handoffs, clock drift, and holding patterns, and a neighbor check separating GPS jamming from one spoofed target.
- Engineer the features it scores on, grouping messages by aircraft and differencing consecutive reports to derive implied speed, climb rate, and turn rate, then joining aircraft type and public GPS interference reports so thresholds adapt to context.
- Own the live feed off a software-defined radio and Raspberry Pi; mentored by engineers from Google and Framatome.

Resident Advisor (Resident Shepherd) Aug. 2025 – Present
Liberty University Residence Life *Lynchburg, VA*

- Train and lead a residence hall of 70 students through weekly meetings, one-on-one mentorship and personal support, and written evaluations each semester.

Technical Skills

Languages: Python, TypeScript, Java, C++, SQL (Postgres, MySQL), JavaScript, HTML/CSS
Frameworks & Libraries: React, Next.js, Node.js, Vue 3, Spring Boot, FastAPI, Prisma, Pydantic, Tailwind CSS
Cloud & DevOps: Docker, AWS (S3, IAM), Redis, MongoDB, Git, GitHub Actions, Vercel, Neon
Data & ML: pandas, NumPy, SciPy, scikit-learn, XGBoost, LightGBM, CatBoost, InfluxDB
AI: Agent instruction design (AGENTS.md), multi-agent workflows, LLM output validation, prompt engineering