

Basil Liu

basil.liu18@gmail.com | (647) 523-3195 | linkedin.com/in/basilliu | github.com/3-rt | basilliu.dev

EDUCATION

University of Illinois Urbana-Champaign

B.S. Computer Science and Chemistry | GPA: 3.61/4.00

Champaign, IL

Expected Dec 2027

EXPERIENCE

Cybersecurity Intern

May 2026 – Aug 2026

BMO Financial Group | Database Activity Monitoring & Governance

Toronto, Canada

- Built, tested, and shipped 3 insider-threat detection policies flagging bonus-compensation access, excessive query returns, and executive email access; monitored them daily, surfacing ~50 events in month one
- Cut database-tagging work from hours to minutes by productionizing a playbook that batch-processes complete finding-ID lists; documented the workflow and transferred ownership for continued use
- Validated 8 custom SSN, SIN, credit-card, and password detectors, closing regex and SQL prefilter gaps so the team could retain broader coverage while matching vendor built-in scan times within 5 seconds on average
- Enabled CSOC to monitor 3K-5K daily privileged-command events across human and application activity through an incremental, regex-based pipeline that avoided month-scale memory failures

Software Engineer Intern

May 2025 – Aug 2025

Siemens

Toronto, Canada

- Automated license tracking and reclamation across manufacturing PCs and servers in C#/SQL Server, replacing weekly manual counts and alerting below a ~200-license threshold to avert line shutdowns
- Enabled additional product lines by building a new .NET utility that extracted 9 encryption keys and 5 SSL certificate formats per device using reflection over Siemens DLLs
- Implemented SQL Server stored procedures that transformed raw manufacturing IoT data for 3 production dashboards used by 10+ engineers, coordinating weekly with international teams to align metrics

PROJECTS

Tailor | TypeScript, Next.js, Python, FastAPI, LangGraph, Postgres/pgvector, AWS, MCP

Jul 2026 – Present

- Built an agentic job-application copilot that ingests a posting, researches the company, and drafts a tailored resume and cited answers through a four-stage LangGraph pipeline
- Shipped the full stack solo: a FastAPI service and Redis worker queue over Postgres/pgvector hybrid retrieval, a Next.js and TypeScript review UI, and a Dockerized deploy on AWS ECS Fargate
- Blocked fabricated claims by citing every generated line to a verified experience library, then guarded that with an LLM-judge eval harness at 4.9/5 grounding and 443 automated tests gating CI
- Authored a bearer-token-protected MCP server exposing the pipeline through 5 tools, so a job link can be handed off from any Claude session; verified against Claude Code as a live client

SolPredict | Python, PyTorch, scikit-learn, MLflow, FastAPI, Next.js | GitHub | Demo

Mar 2026

- Created a web app that predicts how easily a molecule dissolves in water from its chemical structure, training a neural network and a random forest on the same data and reaching 0.75 R^2 on a standard 1,128-molecule benchmark
- Tuned both models over 50 rounds of automated search with cross-validation, then versioned every trained model alongside its scores so the live one could be swapped without a redeploy

WorldSpec | TypeScript, Next.js, Three.js, Recast, Playwright | GitHub | Demo

Best Use, World Labs

- Won Best Use of World Labs at Ignition Hacks V.7 for building spatial QA that turns movement requirements into deterministic traversal tests for AI-generated 3D worlds

SKILLS

Languages: Python, TypeScript, JavaScript, SQL, C#, Java, C++

AI & ML: Agent orchestration, LangGraph, RAG & hybrid retrieval, LLM evaluation, MCP, PyTorch, scikit-learn

Web & Backend: React, Next.js, Node.js, FastAPI, REST APIs

Data & Cloud: PostgreSQL, pgvector, SQL Server, Redis, Docker, AWS ECS Fargate

Testing & Tools: Claude Code, GitHub Copilot, Cursor, GitHub Actions, MLflow, pytest, Playwright, Vitest