
SKILLS

- **Languages:** Python, Go, Javascript, Typescript, Java, MySQL, PostgreSQL, C
- **Frameworks:** Next.js, React.js, Node.js, Express.js, Angular.js, Flask, Cypress, TailwindCSS
- **Architecture:** Distributed Systems, Microservices, Event-Driven Architecture, Cloud-Native Applications, Observability
- **Tools:** Git, Docker, Kubernetes, Kafka, RabbitMQ, Redis, Neo4J, Prometheus, Thanos, Grafana, Instana, LogDNA,
- **Cloud Services:** EC2, S3, Lambda, SageMaker, Firebase, Compute Engine, Cloud Run, BigQuery, Prometheus, OpenShift K8
- **Certifications:** [IBM Kubernetes/OpenShift Essentials](#) | [IBM Blockchain Essentials](#) | [IBM Developer Jumpstart](#) | [IBM Design Thinking](#)

WORK EXPERIENCE

- IBM** *Aug 2023 - Current*
Software Engineer Research Triangle Park, NC
[Hybrid Cloud Mesh Team](#)
- Develop and refine **observability microservices** for IBM Hybrid Cloud Mesh, integrating **Prometheus** and **Thanos** for large-scale metric ingestion, long-term storage, and real-time insights. Enhance these insight capabilities by enriching Prometheus metrics with **mesh-aware labels**, enabling a contextual, unified view of mesh resources across on-prem and multi-cloud environments via Skupper, improving end-to-end system visibility and observability.
 - Led the implementation of on-demand, resource-level **cache miss synchronization** and refactored observability microservice data models into a high-performance caching framework, replacing cadence-driven synchronization and heavy external requests. These improvements validated and enriched metrics before ingestion, eliminated stale tenant and resource data, reduced reliance on outdated kafka events, and significantly lowered **memory, disk usage, and system strain**, especially at **high scale**.
 - Developed **E2E and infra-automation test frameworks** leveraged by the UI and other teams **daily**—enabling mock setups, resource creation, automated querying, and streamlining testing workflows that support reliable observability performance
 - Increased code coverage for all four observability microservices to **80%** prior to Hybrid Cloud GA release and additionally served as the primary point of contact for **all security vulnerabilities** across microservices to handle/resolve prior to release(s).

- IBM** *May 2022 - Sep 2022*
Software Engineer Intern Remote
[Cloud Expert Labs Team](#)
- Designed and implemented secure, branded login pages using **TypeScript**, **Next.js**, and **Node.js**, integrating with IBM Cloud services and adhering to IBM Carbon Design standards to enhance user authentication and security.
 - Implemented secure **REST APIs** with **Express**, enabling end to end user authentication flows, including **password resets**, **email notifications**, **multi-factor authentication**, adhering and enhancing to IBM system security standards
 - Automated retailer onboarding **workflows** with **Python**, reducing manual data entry time by over **75%**, improving operational efficiency and accelerating time-to-market for new clients.
 - **Improved product reliability** by developing and deploying **Cypress E2E tests** from scratch into our **CI/CD pipeline**, reducing deployment bugs and ensuring seamless delivery of new features.

- Leidos** *June 2021 - Dec 2021*
Software Engineer Intern Reston, VA
[Annex Intelligence Division](#)
- Collaborated with the **Annex Intelligence** team to design, develop, and deploy web and mobile applications for the **US NCTC**, supporting critical counter-terrorism initiatives by enhancing operational capabilities and data accessibility.
 - Developed key features for web portals using **Vue.js**, **Node.js**, **ElasticSearch**, and **AWS S3**, improving data processing efficiency and enhancing the user experience for intelligence analysts.
 - **Streamlined** CI/CD pipelines using **Docker**, **GitLab**, and **SonarQube**, reducing build and deployment times by **30%** and enhancing software quality through automated API testing and integration with **Postman**.
 - **Led cross-functional integration efforts**, coordinating with various teams to ensure seamless application deployment, resulting in improved operational efficiency for national security efforts.

RECENT PROJECTS

- YTRecap** [Github](#) *March 2023*
[YTRecap.org](#) is a web app built using Python Flask that can summarize any YouTube video by parsing the video for its closed captions and passing them to an NLP large language model
- GradeMyAid** [Github](#) *December 2022*
[GradeMyAid.com](#) is a financial aid tool built using Next.js and the [CollegeScorecardAPI](#) that offers the ability to compare financial aid packages from varying universities to understand which FAFSA offers are the most appealing.
- Portfolio** [Github](#)
[nicholastillmann.com](#) is my personal portfolio website, built with a focus on clean design and nice UI/UX. It showcases recent projects, including YTRecap, GradeMyAid, and other WIPs while highlighting my personal development projects

EDUCATION

- University of Pittsburgh** *May 2023*
Bachelor of Computer Science Pittsburgh, PA
Coursework: Algorithmic Implementation, Data Structures, Discrete Structures, Assembly Language, Intermediate Programming, Computer Organization, Software Engineering, Web-Development, Artificial Intelligence, Systems Software, Formal Methods in Computing, Operating System, Database Management Systems, Quality Assurance, Big Ideas in Computing
Honors: Cum Laude