Branden KIM

✉ brandenkiminq@gmail.com | 📞 703-223-1009 | ⓖ github.com/psiionik | in
linkedin.com/in/branden-kim-17704513b

WORK EXPERIENCE

SONOS ....

Senior Software Engineer   **Oct 2023 - Feb 2025**

- Led development of a global build and release pipeline delivering firmware to 50M+ devices.
    - Reduced release time by 80% by optimizing pipeline stages and storage.
- Architected a distributed Update Server that aggregates update information from products and delivers firmware updates to 50 million products worldwide, reducing costs from $700,000 to $10,000.
    - Built Redis caching and CDN edge-layer to handle 88% of traffic, improving latency by 300%.
    - Deployed via Kubernetes with high availability and blue-green CI/CD using GitHub Actions + Jenkins.
    - Built data streaming pipeline with S3, Kinesis, and RDS to store 3M users and 50M product data.
- Created a functional, strongly-typed, end-to-end data pipeline enabling declarative virtual transaction chains and centralizing all developer and release firmware build metadata.
    - Reduced firmware build-to-release cycle from 6h to 2h.
    - Built type-safe framework for declarative SQL composition with atomic transactions.
- Developed a Scala-based CI/CD pipeline framework automating firmware promotion (Alpha → Prod).
    - Virtualized Jenkins jobs, cutting plugin-related bugs by 72%.

Software Engineer   **Aug 2020 - Oct 2023**

- Built a fullstack microservices app with AWS Lambda, Step Functions, S3, and Serverless for internal CRUD operations on users, products, and updates.
    - Built using custom MapReduce with Step Functions + S3 and enabled batch user updates.
- Built internal observability stack (Prometheus + Loki) aggregating Jenkins metrics, improving test reliability by 12%.
- Automated firmware delivery workflows with Python scripts and Jenkins job optimizations.

Software Engineer Intern   **May 2019 - Sep 2019**

TECHNICAL PROJECTS

- **scwab** → Built a compiler for a C-style language (wabbit) using Scala and functional programming design.
- **Transformer-Based Electronic Sub-Genre Classifier** → Built custom Transformer model for electronic subgenre classification using BERT + Fourier transforms.
- **Java Raytracer** → Developed 3D raytracer using Java + Processing: ray generation, BVH, Phong shading, geometry collisions.

EDUCATION

M.S Computer Science ML Specialization, Georgia Institute of Technology	**2021 - Present**
B.S Computer Science *Summa Cum Laude*, University of Virginia	**2016 - 2020**
Bradfield School of Computer Science, Certifcation of Completion	**2022 - 2023**

SKILLS

Languages: Python, TypeScript, JavaScript, Java, Scala, Go, C
Infra/DevOps: Docker, Kubernetes, Terraform, Jenkins, GitHub Actions
Cloud: AWS (Lambda, Step Functions, S3, Kinesis, RDS), Serverless
Databases: Postgres, Redis
ML Tools: PyTorch, NumPy, Pandas