

LUKE TONG

EDUCATION

University of Pennsylvania

Philadelphia, PA

BSE in Computer Science. Minor in Data Science, Math, Philosophy

GPA: 3.92, Major GPA: 4.00

EXPERIENCE

Software Engineering Intern

June 2024 – August 2024

TelVue Corporation

Mount Laurel Township, NJ

- Delivered feature tickets and bug fixes on broadcast MVC application in Ruby on Rails
- Developed an AI-driven solution to automate agenda creation for government meetings using prompt engineering
- Utilized WebVTT caption transcripts and OpenAI prompts to extract key moments/highlights with timecodes

Team Lead, Software Developer

January 2024 – PRESENT

Penn Labs, University of Pennsylvania

Philadelphia PA

- Create and maintain official web/mobile products used by over 100,000 Penn students
- Collaborate with UPenn administration to ensure products align with student needs and university guidelines
- Transitioning infra to leverage prerendered data, reducing server API calls by 70% and client load times by 50%
- Spearheaded comments feature to official course review system, including moderation and anonymization
- Lead a team of 6 developers, including delegating tasks, conducting code reviews, and enforcing best practices

Technical Project Lead

September 2023 – PRESENT

Penn Spark, University of Pennsylvania

Philadelphia PA

- Led a team of 9 developers in creating a web application to centralize events listings for UPenn students
- Architected user flow, API endpoints, and database schema, including OAuth, storage buckets, and SQL data

Undergraduate Teaching Assistant (Discrete Mathematics)

August 2024 – PRESENT

Computer & Information Science Department, University of Pennsylvania

Philadelphia PA

- Lead weekly lectures and host office hours to guide students through homework and better understand content
- Write and grade weekly problem sets, midterm and final exams, and recitation slides

PROJECTS

Netstagram | AWS CDK, OAuth, SQL, ChromaDB, Apache Kafka, Apache Spark

May 2024

- Created scalable Instagram clone, including authentication, post rank, and friend recommendation microservices
- Implemented real-time data streaming with Apache Kafka and adsorption using Apache Spark
- Developed RAG facematch feature utilizing image vector embeddings stored in ChromaDB
- Utilized AWS CDK (RDS, S3, EMR, ECS Lambda, SES, CloudFront, API Gateway) and Terraform for deployment

Sparkify | PyTorch, AWS Lambda, AWS S3, Docker, Svelte

September 2023 – December 2023

- Developed a web application to generate complex album art collages from user music tastes
- Implemented API integrations such as Spotify OAuth to fetch user's music taste profile
- Developed a Python script using PyTorch and Pillow deployed on AWS Lambda to manipulate album covers

One Million Checkboxes Clone | WebSockets, Golang, Kubernetes, Redis, AWS

November 2024 – December 2024

- Create website with 1 million checkboxes, synced for all users in real time using WebSocket
- Leveraged Redis Pub/Sub and concurrency to send/receive real-time update batches and full-state snapshots
- Utilize Terraform and Kubernetes for declarative deployment on AWS EKS and Cloudfront

TECHNICAL SKILLS

Languages: Java, Python, C, SQL, JavaScript/TypeScript, Rust, Go, HTML/CSS, Ruby

Frameworks: React, Node.js, Django, Next.js, Rails

Developer Tools: Git, Docker, AWS CDK, Linux, Kubernetes, Terraform

Libraries: PyTorch, Pillow, numpy, Matplotlib, Apache Spark