

LUKE TONG

609-216-5485 | luke.rtong@gmail.com | <https://lukert.me>

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

Software Developer, Mentor

January 2024 – PRESENT

Penn Labs, University of Pennsylvania

Philadelphia PA

- Maintain web/mobile products including official university club directory used by over 100,000 Penn students
- Collaborate with UPenn administration to ensure products align with student needs and university guidelines
- Ship comments feature to course review system, including moderation, anonymization, LLM-powered summaries
- Conduct code reviews, enforce best practices, and mentor new members to maintain codebase quality

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
- Implemented RAG-powered facematch feature using 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
- Wrote a Python Lambda function utilizing PyTorch and Pillow to perform image manipulation on album covers

The Tower Newspaper | Next.js, UI/UX, PostgreSQL

May 2018 – May 2020

- Built newspaper website from scratch with 15k monthly views, including ads, archives, and admin dashboard
- Migrated from paid Wordpress site to serverless architecture reducing hosting costs by \$50 per month

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

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