

Luke Novak

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Work Experience

PathAI, Boston, MA

Software Engineer II

March 2023-June 2023

Software Engineer I

June 2021-March 2023

- Wrote & maintained internal library in Python & C to extract ICC profiles from slide image files
- Drafted company open source policy & managed company relationship with open source community
- Designed, developed, & launched backend APIs for external labs to use PathAI platforms
- Optimized systems for ingesting whole slide images over 2GB in size

Apple Inc, Cupertino, CA

June 2020 - January 2021

Back-End Software Engineering Co-op

- Designed high-level architecture for high-traffic back end API service across multiple teams
- Eliminated server deployment downtime by dynamically loading configuration in web-app back end
- Retired tech debt & refactored service backend, including migration from JDK 8 to JDK 11
- Migrated codebase to Spring Boot framework from non-framework Tomcat server

TripAdvisor (Viator.com), Needham/Boston, MA

July 2019 - December 2019

Full-Stack Software Engineering Co-op

- Designed new AJAX-based login/signup system & deprecated login page for dynamic login modal
- Implemented homepage redesign resulting in improved conversion & bounce rates
- Introduced caching to a frequently called API endpoint saving 1-2 million API calls per hour

TripAdvisor, Needham, MA

July 2018 - December 2018

Desktop Support Engineer Co-op

- Developed & deployed in-house software including a Python web app for managing litigation holds
- Won company-wide intern Hackathon with interactive NFC chips & companion Android app

Technical Knowledge

Languages: Python, Java, TypeScript, JavaScript, Go, HTML, CSS, C, R, SQL, OCaml, GraphQL, x86

Frameworks: React, Spring Boot, PostgreSQL, Flask, Django, FastAPI

Systems: macOS, Windows 7/8/10, Linux (CentOS7, RHEL, Fedora, Ubuntu)

Personal Projects

The Emerald Tutu Website- Marketing website for climate-based startup, generated from client

- React/NextJS based application that generates a website based on client-provided content.

Snake Compiler - OCaml compiler for the "snake" language with a C runtime

January - April 2020

- User written "Snake" code compiled to x64 assembly, then assembled into binary executables.
- Racket-based language features Static compile-time type checking & runtime garbage-collection

Ghostwriter - Generative Machine Learning model that generated song lyrics

March - April 2020

- Retrieved, cleaned, & stored lyrics for 10,000 songs by over 3,000 artists for model training

Education

Northeastern University, Boston, MA

September 2016 - May 2021

Bachelor of Science in Computer Science (GPA: 3.7/4.0)

Honors: Magna Cum Laude, University Scholar, Dean's List, Varsity Athlete (Track & Field)

Khoury College of Computer Sciences, Northeastern University

January 2021 - May 2021

Teaching Assistant, CS4410/6610 Compiler Design

Volunteer Experience

Co-Founder/Director, Husky High School Hacks, Boston, MA

October 2018 - June 2020

- Developed & held hackathons for high school students covering STEM & Computer Science topics