Alex Lee Tobias

US/Canada Dual Citizenship
https://alextobias.me

alexanderleetobias@gmail.com ✉
linkedin.com/in/alextobias 🔗
github.com/alextobias 🔗

EDUCATION

University of Toronto **Expected 2023**
B.S. Computer Science, 3.96/4.0 GPA (Dean's List) *Toronto, ON*

WORK EXPERIENCE

Akuna Capital **Jun 2022 – Aug 2022**
Incoming Software Development Intern *Chicago, IL*

Asana **Jan 2022 – Apr 2022**
Incoming Software Development Intern *San Francisco, CA*

University of Pennsylvania **May 2021 – Present**
Research Intern *Remote*
- Worked under Dr. Ryan Baker in applying machine learning on MOOC data to predict and model learner behavior.
- Received a fellowship from Schmidt Futures and The Learning Agency Lab to pursue research at the University of Pennsylvania Center for Learning Analytics.

FlyFarm Agritech **May 2020 – Jul 2020**
Software Engineering Intern *Hong Kong*
- Designed and deployed an edge device IoT network for real-time environmental data aggregation & reporting.
- Results included 150% improvement in atmospheric stability and 200+ hours of operational labor saved.
- Developed network management tools with a React/Flask/MySQL stack and a RESTful backend API.

Bionik Laboratories, Inc. **Jan 2019 – Apr 2019**
Software Engineering Intern *Toronto, ON*
- Developed embedded RTOS software on ST Microcontrollers in C for an assisted rehabilitation robotic system.
- Increased system graphics cost-efficiency over 50% by analysing and automating rendering tests.
- Created internal tools to test AMQP communication, WebRTC and other experimental system features.

PROJECTS

SideWindow | *TypeScript, React, Socket.io* **May 2021**
- Created an original VS Code extension to cast files to other devices for real-time editing and viewing.
- Built a cross-platform web client in React for seamless mobile and desktop control of shared files.
- View at *www.sidewindow.xyz*, extension page at *www.sidewindow.xyz/extension*

Tweet Sentiment Predictor | *JavaScript, WebAssembly, Python* **Apr 2021**
- Trained a sentiment analysis model on the "Sentiment140" dataset of 1.6 million tweets using FastText.
- Created a browser-based tool using said model to perform sentiment classification on user-supplied text.
- View at *https://alextobias.me/sentiment-analysis-web/*

Part-of-Speech Tagger | *Python, NumPy* **Mar 2021**
- Implemented a grammatical tagger utilizing Hidden Markov Models to encode observed sequential probabilities.
- Tagger can be trained on labelled texts to generate models capable of tagging unseen texts with 90% accuracy.

RELEVANT COURSEWORK

- Artificial Intelligence
- Operating Systems
- Algorithm Analysis
- Statistics
- Databases
- Systems Programming
- Programming Languages
- Computer Architecture

SKILLS & INTERESTS

Languages: Python, C, C++, JavaScript, TypeScript, Haskell, Lisp/Racket, Java
Technologies/Frameworks: Linux, git, React, Flask, Express, MongoDB, PostgreSQL, MySQL, AWS, Elasticsearch
Technical Interests: Artificial Intelligence, Linux Kernel, Functional Programming
Personal Interests: Improv Theatre, Mixology, Mountain Biking