Alexander W. Lee

+1 (609) 582–8698 | awlee22@amherst.edu | alexanderwlee.com | github.com/alexlee311

Education

Amherst College, Amherst, MA
Bachelor of Arts in Computer Science and Mathematics (GPA: 3.92/4.00) Expected May 2022

- Relevant Coursework: Algorithms, Data Structures, Parallel and Distributed Computing, Machine Learning, Data Mining, Computer Systems, Computer Security, Evolutionary Computation

Work Experience

Microsoft, Redmond, WA
Software Engineer Intern, Commerce Catalog June 2021 — Present

- Reduced time for developers to debug product configuration differences across product versions by using **C#** to enhance an **ASP.NET REST API** that scales over **150,000** requests per second to return older versions of product configuration documents when a document version is passed as a query parameter
- Increased efficiency for on-call engineers to diagnose product configuration issues by developing an **ASP.NET Blazor** web application in **C#** that takes user input to query internal **API**s for product configuration data and parses the returned **JSON** document to generate a downloadable CSV file containing key product data

Fidelity Investments, Merrimack, NH
Software Engineer Intern, Contact Center Cloud Solutions June 2020 — August 2020

- Enhanced customer call experience by developing an **Amazon Connect** contact flow that leverages **Lambda** (written in **Python**), **Lex**, and **Elasticsearch** to transfer customers to branch agents based on the spoken names of agents
- Boost agent productivity by building an **Amazon Lex** bot with **Python** that classifies a customer's call intent with an **88%** accuracy so that customers can be routed to the appropriate contact centers using **Amazon Connect**, **Lambda**, and **DynamoDB**
- Decreased number of missed calls for agents by creating an **Angular** service in **Amazon Connect Contact Control Panel** that gives agents visual cues via a light device during incoming calls and when calls are in their queue; presented this functionality to an audience of **100** product managers and developers

Health Sqyre, Denver, CO
Software Engineer Intern June 2019 — August 2019

- Improved insurance payment system by implementing more accurate **API** response parsing of patient medical insurance data in an existing **Python Flask microservice**
- Increased development and testing efficiency by building **Python Flask** web applications for interacting with company utilized **API**s

Amherst College Computer Science Department, Amherst, MA
Research Assistant, Amherst College Data Mammoths (acdmammoths.github.io)* December 2020 — Present

- Increased computational efficiency for balanced sampling on large populations by using **Python**, **NumPy**, and **SciPy** to develop a parallel algorithm for balanced sampling based on the cube method for stratified populations
- Bolstered confidence in the sampling algorithm by writing **Python** experiment scripts to evaluate the algorithm on a **Debian GNU/Linux** server
- Research sponsored, in part, by the **National Science Foundation**

Teaching Assistant and Peer Tutor March 2019 — December 2020

- Deepen students' understanding of **data structures** and **object-oriented programming** in **Java** by holding one-hour teaching sessions twice a week

Leadership

- President of the Amherst College Computer Science Club

Skills

- Languages: Python, Java, C#, TypeScript, JavaScript, C, Clojure, SQL, HTML/CSS
- Frameworks/Libraries/Tools: Flask, ASP.NET, Angular, NumPy, SciPy, Git, GitHub, Bitbucket, Jira, Confluence
- Cloud Computing Services: Amazon Web Services — Lambda, Lex, S3, DynamoDB, Connect, Elasticsearch, SageMaker, CloudWatch, Route 53; Microsoft Azure — DevOps, Functions