# Alexander W. Lee

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## Education

**Amherst College**, Amherst, MA
*Bachelor of Arts in Computer Science and Mathematics (GPA: 3.95/4.00)* May 2022

- Graduated ***summa cum laude***
- Awarded the **Computer Science Prize** for completing an honors thesis and achieving the best performance in the study of computer science in the opinion of the Department of Computer Science
- **Honors thesis**: reduced the number of unknown false positives when statistically testing data mining results by developing novel swap-randomization algorithms in **Java** to sample transactional datasets from a widely-adopted null model without suffering from issues present in existing methods
- **President** of the Amherst College Computer Science Club

## Work Experience

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

- Reduced time for developers to debug product configuration differences between product versions by enabling the team's **ASP.NET API** service to return specific versions of product configuration documents
- Increased efficiency for on-call engineers to diagnose problems involving the team's product data API endpoints by designing and implementing capabilities to log specific events and return the logs as part of the response payload
- Improved user experience for engineers and clients to resolve product configuration issues by developing an **ASP.NET Blazor** web application to download key product data based on query multiple parameters

**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**, **Lex**, and **Elasticsearch** to transfer customers to branch agents via the agent's spoken name
- Boost agent productivity by training an **Amazon Lex** bot that classifies a customer's call intent with **88%** accuracy for routing customers to the appropriate contact centers using **Connect**, **Lambda**, and **DynamoDB**
- Decreased number of missed calls for agents by creating an **Angular** application in **Amazon Connect Contact Control Panel** that gives agents visual cues for incoming calls from a light device

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

- Upgraded the startup company's insurance payment **Flask** microservice by developing more accurate parsing of patient medical insurance data
- Increased engineer development and testing efficiency by building **Flask** web applications for interacting with company utilized APIs

**Department of Computer Science of Amherst College**, Amherst, MA
*Research Assistant, Amherst College Data* Mammoths (acdmammoths.github.io)* December 2020 — May 2022

- Improved scalability for balanced sampling by developing a parallel algorithm of the cube method using **Python**; paper accepted for publication to the **AAAI-22** Conference on Artificial Intelligence Student Abstract and Poster Program and presented to various experts in the field

*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

## Skills

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