# Bradley Hsu

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## Education

**Washington University in St. Louis**                                                                     *St Louis, MO*

B.S. IN COMPUTER SCIENCE AND MATH (PROJECTED)                                               *Expected Graduation: May 2024*

- Relevant Coursework: Data Structures and Algorithms, Data Science, Intro to AI, Management, Linear Algebra, Vector Calculus, Systems Software, Human-in-the-loop Computation, Visual Screen Design, Statistics, Real Analysis, Machine Learning

## Work Experience

**Amazon Web Services**                                                                              *May 2023 - August 2023*

SOFTWARE ENGINEER INTERN                                                                                   *Seattle, WA*

- Member of AWS Timestream, a serverless cloud time series database
- Designed and implemented system to expose customer ingestion metrics to customer Cloudwatch; System handling 400M+ metrics/week
- Technologies used: AWS SQS, EC2, Cloudformation, etc..., Java, Python, Bash

**Amazon Alexa**                                                                                     *June 2022 - August 2022*

SOFTWARE ENGINEER INTERN                                                                                   *Bay Area, CA*

- Member of Amazon Alexa Shopping pFase team, focusing on providing personalized shopping experiences through Amazon Alexa
- Reconfigured cache of external API called on every call of core backend service
- Designed and implemented service to update cache on source of truth updating, ensuring consistent customer experience
- Built service to scale to 1000 requests per second; service currently in production handling more than 10 million monthly requests
- Increased effective cache hit rate from less than 5% to 50%; as a result, decreased latency of team's core API service by 10%
- Technologies used: AWS (Lambda, SQS, ElastiCache, EC2, Cloudformation, etc...), Java, Python

**Washington University in St. Louis**                                                              *August 2022 - Current*

TEACHING ASSISTANT FOR GRADUATE LEVEL CS CLASSES                                                          *St. Louis, MO*

- Helped design and head TA first iteration of graduate level class on Natural Language Programming (CS 527A) under Professor Chenguang Wang and first iteration of graduate level class on formal methods for verifying autonomy (CS 537T) under Professor Hussein Sibai

**Sibai Lab - Washington University in St. Louis**                                                 *January 2023 - Current*

RESEARCH ASSISTANT                                                                                        *St. Louis, MO*

- Working directly with Professor Hussein Sibai, on formal verification for robustness guarantees in graph neural nets

**Bonauria**                                                                                         *August 2021 - June 2022*

SOFTWARE DEVELOPER                                                                                        *St. Louis, MO*

- Built and maintained machine learning based telehealth system to diagnose hearing loss. (ASP.NET Core, Matlab, Python, C#)

## Selected Projects

**HackWashU Website and Applications Management System**

VUE.JS, JAVASCRIPT, GITHUB ACTIONS, DOCKER, AZURE, DJANGO, GOOGLE ANALYTICS, FIGMA

- Led crossfunctional team to design and build website and application system for HackWashU hackathon
- Website served 10k+ visitors per month; Application system handled about 1000 applications

**Eco2Go Tracker – Winner at Hacktech 2021**

REACT, JAVASCRIPT, TENSORFLOW.JS, GOOGLE CLOUD PRODUCTS

- Selected as winning hack at Caltech's Hacktech 2021; Created tracker for university Eco2Go recycling program

## Activities/Leadership

**Hack WashU**                                                                                      *January 2022 – Current*

CO-FOUNDER; CO-PRESIDENT

- Co-founded crossfunctional team to plan yearly hackathon with $60k+ budget and 250+ attendees; first iteration ran October 2022
- Connected sponsors with WashU undergrad talent; Helped many of my classmates get internships
- Owned hackathon tech infrastructure; Led development + design team to create hackathon website and hackathon application system

**WashU ACM Machine Learning Interest Group**                                                        *May 2022 - Current*

CHAIR

- Collaborating with Professor Nathan Jacobs to build student ML interest group; leading paper readings and facilitating student research.

## Skills

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| **Languages** | Java, Python, HTML/CSS, JavaScript, TypeScript, C++, C, C#, Matlab, Kotlin, Rust |
| **Libraries/Frameworks** | NumPy, Pandas, Sklearn, Keras/Tensorflow, Pytorch, React, Node.js, Express.js, Vue.js |
| **Tools** | MongoDB, Google Cloud Platform, AWS, Docker, Github Actions |