Hello. I am
Bach Nguyen

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Education

Harvard University :: AB Candidate in CS
September 2020 - May 2025
- ➔ **Address**   Massachusetts Hall, Cambridge, MA 02138
- ➔ **Coursework**   CS50 (Introduction to CS), CS51 (Abstraction)
  Math 1B, Math 21A (Calculus)
  Math 22A (Vector Calculus), CS 120 (Intro to Algorithms)
  CS 182 (Artificial Intelligence)

Experience

Research Assistant :: Harvard Graduate School of Education
September 2022 - January 2023
- ➔ Worked with Professor Bertrand Schneider to develop **ez-mmla,** an accessible toolkit for researchers and others wanting to collect or learn how to collect multimodal data.
- ➔ Added support for Google Colab notebooks to the website and added several well known NLP models such as GPT3 to the toolkit.

Software Engineering Intern :: Google, Inc.
May 2022 - August 2022
- ➔ Developed and presented a fully functional demo application for Google Cloud AI team and their clients to compare different text recognition models developed by the team. Java and Typescript were mainly used for this full stack project.
- ➔ Received Typescript readability and approved front-end related changes by other engineers.
- ➔ Wrote an extensive design documentation which details the implementation of the application, as well as a comprehensive guide for extending features and configurations.

STEP Intern :: Google, Inc.
May 2021 - August 2021
- ➔ Developed a batch data processing feature which allows clients, mainly other Google infrastructure teams, to extract metadata from a massive Spanner database for stats and debugging. Mainly used C++ and protobufs.
- ➔ Expanded this feature such that the feature is able to use the collected metadata to flag certain rows in the Spanner table that are outdated or needs to be deleted to maintain data integrity.
- ➔ Wrote and ran a Flume pipeline to test these features on a massive Spanner database.
- ➔ Wrote an influential design document and received recognition from many others from the team who found it helpful.

Tech for Social Good, Senior SWE :: Harvard Computer Society
September 2020 - December 2021
- ➔ Developed a GraphQL API for Audiopedia, a nonprofit which aims to educate women through audio track. The API can query and mutate data and features a token verification system.
- ➔ Developed a machine learning algorithm to convert a given industry name such as USPS to federal defined industry codes that describe the purpose of these industries with around 70% accuracy.

Open Source Contributor and Mentor :: Haiku OS
December 2017 - February 2019
- ➔ Ported around 10 BeOS and old HaikuOS applications to the new beta version and fixed build errors. Mostly in C++.
- ➔ Wrote installation scripts (called recipes) for 80+ applications.
- ➔ Helped new HaikuOS contributors make their first contribution as a mentor.
- ➔ Created bash scripts to automatically update outdated images of HaikuOS in documentation, and fixed old software to compile on newer HaikuOS.

Projects

Topaz
2020-2023
A compiled programming language influenced by Smalltalk and OCaml, built with C++. I use Flex/Bison for lexing and writing to LLVM intermediate representation, then have LLVM handle the compilation to object files, which can be linked with gcc or clang.

Mysti
November - December 2020
A MacOS desktop app which organizes files automatically upon file creation or movement. Users can specify which directories files can go in if their filenames match a specified regex pattern. Mainly used React Native and Node.js.

BeanBots
July 2020
A platform where users learn coding by programming a robot to perform certain tasks as a challenge and compete against other users for motivation. Used P5.js for graphics and express.js for sockets and multiplayer features.