

BHAKTI SHAH

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LANGUAGES

Assembly (x86-64)	C
Coq/Gallina	Haskell
Java	JavaScript
Lean	OCaml
Python	R
Rust	Scala
SQL	TypeScript

LEADERSHIP

WeBring: *December 2020*

<https://github.com/bhaktishh/WeBring>

Winning project at a hackathon.

Team Leader. Built a service that allowed elderly individuals to request services via **SMS**.

Interstell<her> Hackathon:

February 2021

Mentored elementary and middle school girls for an app development hackathon over the course of two days.

TEACHING

Virtual Introduction to

Programming course: *June 2020*

Designed and conducted a course for children aged 6-9. Primarily in **Scratch**.

Coding4Youth: *June 2021 – August 2021*

AP Java and **Mathematics** tutor.

Teaching Assistant/Grader:

CMSC 16100 [Honors Introduction to Computer Science I] *Fall 2021*.

CMSC 11111 [Creative Coding] *Winter 2022*.

CMSC 15200 [Introduction to Computer Science II] *Spring 2022*.

CMSC 27100 [Discrete Mathematics] *Fall 2022*.

CMSC 14200 [Introduction to Computer Science II] *Winter 2023*.

Course Assistant: **CMSC 22300**

[Functional Programming] *Fall 2022*.

Provided feedback and beta tested potential assignments.

SERVICE

Student Volunteer: POPL '23, Boston

INTERESTS

Playing and watching soccer

Creating art

Playing the piano

EDUCATION

The University of Chicago

B.S. Computer Science (Expected)

GPA: 3.75/4.00

Chicago, IL

June 2024

SELECTED WORK EXPERIENCES

Amazon Web Services (AWS) [<http://aws.amazon.com/>]

Software Development Engineer Intern

East Palo Alto, CA, US

June 2022 – September 2022

- Transitioned the **logging system** for a backend dependency of the **AWS Global Console** to a more robust and accessible platform. Made **configuration changes** that **improved latency** and **ease of use** for all service teams across the Console.
- Wrote **holistic end to end tests** in **TypeScript** using the **Jest** framework for the same backend service, allowing a transition from slower, manual deployments to **faster, automated deployments** for a **high priority service**.

Bankuish [www.bankuish.com/]

Android Development Intern

Chicago, IL, US

April 2021 – June 2021

- Built the learning component of the **Android** application Bankuish in **Java**.
- Utilized the **YouTube API** to display content dynamically.

Computer Science Instructional Laboratory [csil.cs.uchicago.edu/]

Systems Administrator

Chicago, IL, US

March 2021 – Present

- Assisting members of the computer science community at UChicago with their technical needs.
- Head of Inventory and Scheduling, responsible for 5 high capacity computer labs and ~30 staff members.

Sameeksha Capital [sameeksha.capital/]

Intern

Mumbai, MH, IN

July 2020

- Built software that compiled data about company executives' interviews **dynamically**.
- Scraped web data in **Python**, utilizing the **Selenium webdriver API**.
- Stored data using the **Pandas** library and **pickling** for efficiency.

Heckyl Technologies [<http://heckyl.com/>]

Intern – Java Team

Mumbai, MH, IN

June 2019

- Built software that compiled data from regulatory sites and documents.
- Scraped web data in **Java**, utilizing the **HTMLUnit** browser and **PDFBox** library.
- Stored data in a **MySQL cloud database**, using **SQL** commands.

SELECTED RESEARCH

Chicago Quantum and Programming (Languages) Lab

<https://chiqp.cs.uchicago.edu/>

April 2022 – Present

- Added proofs about quantum padding for multi-qubit gates to [QuantumLib](#), a formally verified library for reasoning about quantum programs.
- Working on a source-to-source compiler from **Coq** to **Lean** theorem provers.
- Working on an abstract graph visualization tool to support [VyZX](#), a verification of the ZX Calculus.
- Under guidance of Robert Rand, Assistant Professor, University of Chicago.

tree-house

March 2022 – June 2022

- Developing a **structure-aware** code editor with **direct manipulation** interactions, based on [Deuce](#). Added AST-based interactive SVG block overlays, as well as structural editing features.
- Under guidance of Ravi Chugh, Associate Professor, University of Chicago.

Human-Robot Interaction Lab (HRI Lab)

<https://hri.cs.uchicago.edu/>

February 2021 – March 2022

- Explored the impact of the presence of **robots** in relation to **fostering deep conversations** between individuals.
- Under guidance of Sarah Sebo, Assistant Professor, University of Chicago.