BHAKTI SHAH
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LANGUAGES

Assembly (x86)	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**.

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.*
CMSC 22100 [Programming Languages] *Spring 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

CURRENT

Amazon Web Services: Automated Reasoning Group. Applied Science Intern. *Summer 2023.*

EDUCATION

The University of Chicago — Chicago, IL
B.S. & M.S. Computer Science (Joint Bx/MS program) — September 2020 – June 2024
GPA: 3.69/4.00

SELECTED WORK EXPERIENCES

Amazon Web Services (AWS) [*http://aws.amazon.com/*] — East Palo Alto, CA, US
Software Development Engineer Intern — June 2022 – September 2022

- Transitioned the **logging system** for a backend dependency of the **AWS Global Consol**e 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/*] — Chicago, IL, US
Android Development Intern — 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/*] — Chicago, IL, US
Systems Administrator — 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*] — Mumbai, MH, IN
Intern — 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/*] — Mumbai, MH, IN
Intern – Java Team — 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 — April 2022 – Present
https://chiqp.cs.uchicago.edu/

- Working on an **abstract visualization tool** to support VyZX, a verification of the ZX Calculus, as well as general inductive structures in **Coq**. Available on the VSCode Marketplace, or source at ViZX.
- Added proofs about quantum padding for multi-qubit gates to QuantumLib, a formally verified library for reasoning about quantum programs.
- 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) — February 2021 – March 2022
https://hri.cs.uchicago.edu/

- 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.