# Ishan **Baliyan**

FULL STACK DEVELOPER

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## Skills

| | |
|---|---|
| **Programming** | Java · Python · C · JavaScript · HTML · CSS · Scheme |
| **Frameworks** | React · Node.js · Express.js · TensorFlow · Bootstrap · Selenium · MaterialUI |
| **Tools** | Git · Firebase · MongoDB · Stripe · Commerce.js · Netlify · Vercel · Heroku |

## Experience

### Google Computer Science Summer Institute (CSSI)

SOFTWARE DEVELOPER & CSSI SCHOLAR                                                                 *July 2021*

- Completed 4-week intensive summer program organized by Google, and designed **16+ web apps** in **JavaScript/HTML/CSS** and **Firebase**.
- Built Google Chalkboard web app with **JavaScript**, **Firebase**, **Google Oath2**, and **Python Machine learning model** with **TensorFlow** on the MNIST dataset, where app gained **50 unique clones** on GitHub from cohort and presented to Google staff. *GitHub | Demo*
- Concluded over **70 hours** of training in JavaScript/Firebase, product design, and software engineering from Google Software Engineers.

### Harvard University Wadduwage Lab                                          *Cambridge, United States*

SOFTWARE DEVELOPER & REMOTE RESEARCH INTERN                                        *Jul. 2020 - Present*

- Developing a **Python Deep Learning** neural network using **CNN** with U-Net architecture, **Keras** and **TensorFlow** to enhance cell images.
- Denoising images of biological organisms and testing on **500+ layer images** of 3D cells from both Structured and Uniform light illumination.

### UWaterloo Social and Intelligent Robotics Research Lab (SIRRL)         *Waterloo, Ontario*

UNDERGRADUATE RESEARCHER                                                            *Jul. 2020 - Present*

- Evaluating **software and hardware** specifications of robots in Social Robotics (under Prof. Dautenhahn, Canada Research Chair).
- Comparing **100+ robots level of autonomy, fabrication, deployment, and testing** in Systematic Review of **8000+ papers** for publication.

### MVS Systems Inc.                                                              *Ottawa, Ontario*

SELF-DRIVING SOFTWARE ENGINEERING INTERN                                        *Aug. 2019 - Mar. 2020*

- Paid contract partnered with United Nations for developing **C++ self-driving** robot prototypes for Research & Development.
- Designed **Arduino/C++** autonomous **self-driving** on robot with **computer vision OpenCV** and **Lidar** sensors response.

### FIRST Robotics Canada                                                          *Ottawa, Ontario*

SOFTWARE ENGINEER FOR AUTONOMOUS DRIVING                                          *Sep. 2018 - Jul. 2021*

- Programmed autonomous driving in **Java**, while using **Python OpenCV** computer vision with **Raspberry Pi** and ultrasonic sensors.
- Placed World Division Finalist in FIRST Robotics Competition World Championships (**Top 35 from 4000+ teams**) in 2018.

NATIONAL FIRST ROBOTICS CANADA YOUTH COUNCIL                                      *Sep. 2019 - Jul. 2021*

- Led and Represented **25,000 members** of FIRST Robotics to organize and host National Hackathons, Conferences, Summer camps, community initiatives (featured in news), and interviews with President of 3M Canada and CEOs.

## Projects

### *PiggyBank* | GitHub | Demo                                                  *Waterloo, Ontario*

WINNER OF UNIVERSITY OF WATERLOO ENGINEERING HACKATHON ($1000 GRAND PRIZE)                         *2021*

- Designed login banking app with **React**, **MongoDB** user database, **Node**, and **Express** that lets kids save money and safely buy items online.
- Program web scrapes Amazon products with **Axios** and **Cheerio**, and sends parental approval emails for purchases with **Nodemailer**.

### *Storify* | GitHub | Demo                                                     *Toronto, Ontario*

FINALIST OF UNIVERSITY OF TORONTO ENGINEERING HACKATHON                                            *2022*

- Built e-commerce **React** app with **Stripe** payment and **Commerce.js** for efficient warehouse storage with **cache** customer cart, shipping services, automated emails, **mobile** support and deployed with **Netlify**, resulting in increased warehouse storage capacity by **120%**.

## Education

### University of Waterloo                                                        *Waterloo, Ontario*

HONORS BACHELOR OF COMPUTER SCIENCE | MAJOR GPA: 3.9/4.0                                      *April 2026*

*Faculty of Mathematics Scholarship $10,000 | Awarded to Top 5% Faculty Students Based on National Contest Scores*

**Interests**   *Skydiving · UWaterloo Archery club · UWaterloo Fencing club · Novice at chess*