

BILAAL HUSSAIN

 [bilaalhussain.github.io](https://github.com/bilaalhussain)

 [bilaalhussain](#)

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SKILLS

LANGUAGES: C++, Java, Python, Lisp, SQL, Javascript, CSS, HTML

TOOLS: Git, Postman, Jira, Emacs, Latex, Unix Shell, JetBrains, Android Studio, SPSS

TECHNOLOGIES: Node.js, Express, React, Bootstrap, AWS, Kubernetes, Firebase, Docker, OpenCV

INTERESTS: Competitive Debate, Philosophy, Astronomy, Automation, Public Speaking

EXPERIENCE

TobyX Corp, *Software Developer*, (Remote Development)

Apr. 2019 - Present

- Remotely **working while studying** with increased course load for local startup by Waterloo alumni
- Deployed CICD pipeline in AWS with Docker, auto-scaling, EC2, RDS; automating **15 hour** monthly time-sink
- Completely designed and develop APIs, schemas, code quality policies for new products; for example: structured back-end schemas and APIs for consumer feedback feature which conducts text analytics & targeted feedback from **100k+** customer feedback records quarterly

Honeywell Atlanta Software Centre, *Software Developer Intern (8 Mo.)*, Atlanta, GA

Sep. 2018 - Apr. 2019

- Wrote features for Flight Planning Engine (FPE) path finding algorithm in C++, to service over **100k** flight plans monthly
- Increased the FPE startup speed by a factor of **120x (1 hr → 30 sec)** by spearheading integration of binary serialization using Boost libraries
- Conducted architectural design to implement type-ahead system with **5 μ s delay** (down from **75 sec**) by optimizing PSQL queries and integrating Redis in-memory container into Kubernetes
- Developed extensible logging wrapper using pre-processor macros with **near 0** code and runtime overhead, and language localization

ACTIVITIES

Toastmasters International

May 2019 - Present

- Completing Leadership Development Pathway certificate program
- Three time first place winner in monthly Table Topics (unprepared speaking) competition with 30 participants

Autonomous Car Student Design Team

Aug. 2019 - Present

- Volunteering in WATonomous perception team as a software developer

Muslim Students' Association

Jun. 2019 - Present

- Volunteering in Ramadan functional group

PROJECTS

Piping Instrumentation Diagram (PID) Classifier

Mar. 2019

- Created Python script in OpenCV that identifies components on PIDs, and returns JSON formatted parsing of connections and instrument models. Uses pyramiding, canny edge detection, and template matching.

StayInTheLoop

May 2018

- Implemented Reddit bot which performs natural language processing using Natural Language Toolkit to identify trending stories, and email/PM short explanations to subscribed users

EDUCATION

University of Waterloo

Sep. 2017 - Present

- Candidate for Bachelors of Computer Science
- Current 3rd Year with a Major Average of 82%
- Anticipated Completion: April 2022