Mohammed **Bilal** Akhtar

me@itsbilal.com
ask over email
github.com/itsbilal

Technical skills

Areas of interest: Distributed Systems, Data Stores, Backend Development, Linux/Unix, SRE
Languages: Python, Go, Erlang, JavaScript, Java, Ruby, C, C++, Scala
Technologies: SQL, AWS, Bash, Git, Node.js, Rails, React, Redux, Thrift

Experience

Cockroach Labs, Backend Engineering Intern, New York, NY   09/2018 – 12/2018

- Improved calculation of statistics and cardinality estimates in CockroachDB's cost-based optimizer, resulting in more efficient query execution plans being chosen

Facebook (WhatsApp), Software Engineering Intern, Menlo Park, CA   01/2018 – 04/2018

- Designed and implemented a new Erlang microservice for logging client requests, increasing request logging capacity by 16 times compared to previous setup
- Migrated an existing chat service to Facebook's container infrastructure and new sharded key-value store, while being on-call and maintaining availability

Cockroach Labs, Backend Engineering Intern, New York, NY   04/2017 – 08/2017

- Implemented new SQL statements in CockroachDB, a distributed SQL database, for monitoring running queries and sessions
- Added cancellation mechanisms in all local and distributed query processors
- Wrote RFC design documents and achieved consensus before starting implementation

Amazon, Software Engineering Intern, Toronto, ON   09/2016 – 12/2016

- Built a pipeline to move shipment planning audit data to AWS DynamoDB and Redshift at scale using SNS, Lambda, and Kinesis streams, from a Java service
- Made an internal website using Backbone and Flask to surface audit data and answer exactly where inbound packages are being sent, and what part of the system made that decision

PagerDuty, Backend Services Intern, Toronto, ON   01/2016 – 04/2016

- Optimized notification composing and delivery for users with high alert volumes, increasing peak incident handling and notification sending capacity in PagerDuty by at least 10x
- Added incident grouping features to the Ruby web app, and executed related long-running MySQL migrations on core incident tables without any downtime

Activities

- Ran beginner-oriented coding workshops and mentored first years on Ruby, Rails, and SQL
- Served as Research Assistant on projects in operating systems and programming languages
- Active University senator, leading initiatives on mental health and academic program changes

Education

University of Waterloo, Bachelor of Software Engineering   09/2014 – 06/2019
GPA: 3.95 (Dean's Honours List recipient)