Akshay Pall

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EDUCATION

University of Waterloo
B.SE (Software Engineering)
3B (Junior)
Sep. 2016 - Present
GPA: 3.74/4.0
Cumulative Average: 85%

SKILLS

Languages:
Java • C/C++ • Scala • Python
• LaTeX • Bash

Technologies
Thrift • Guice • PrestoDB •
Cubrick • Jetty • Jenkins •
Screwdriver • Jersey • mySQL
• Vespa • Maven • Gradle •
Flask • Android

Areas of Interest:
Distributed Systems
Backend Engineering
Infrastructure Engineering

AWARDS

Term Dean's Honours List (2x)

President's Research Award

Schulich Scholar for UofT

Lieutenant Governor's Ontario
Heritage Award

ACTIVITIES

University of Waterloo
Engineering Ambassador

5x Waterloo Software
Engineering Academic Rep

EXPERIENCE

Facebook | Software Engineering Intern
Summer 2019 | Menlo Park, CA
- Worked on **PrestoDB**, a **petabyte-scale** open-source SQL query engine
- Wrote a connector for **Cubrick**, an in-memory **MOLAP** DB, to leverage its low-latency with Presto's compute scale and complex SQL support
- Implemented **query filter pushdown** to move portion of compute to storage, reducing "scanned to returned" data ratio to as low as **1:1**
- Converted boolean tree of query filters to **conjunctive normal form** to select maximal subset which may be applied at the table scan step
- Coordinated **cross-functional** design and creation of new endpoints in Cubrick to support project needs

Yahoo! | Software Engineering Intern
Fall 2018 | Sunnyvale, CA
- Main **point of contact** for engineering questions and user complaints for Yahoo! Calendar, a product with **100+ million MAUs**
- Pushed code to **open-source ical4j** library consisting of bugfixes, legacy version maintenance, and test coverage improvements
- Wrote crawler for Yahoo! Calendar to find and schedule missing notifications, remediating issues for over **2 million users**
- Observed and corrected bugs across Yahoo services: **message queue** (CMS), **distributed NoSQL DB** (Sherpa), and **search index** (Vespa)

Winter 2018 | Sunnyvale, CA
- Contributed to Oath Migration Framework, moving over **80 million users** from AOL to Yahoo Mail
- Reconfigured system workflow properties to **remove deadlocks** and **reduce job failure** rates by **10%**
- Produced and consumed additional metadata for all jobs to improve **context reconstruction** on recovery
- Rearchitected several jobs to adhere to AOL Mail's rate limit by **distributing** requests over multiple threads
- Enhanced various admin APIs using **Jersey** for use in controlling various migration processes

CBC/Radio-Canada | Android Developer Coop
Summer 2017 | Toronto, ON
- Developed major UI/UX features such as a **theme engine** for the CBC News App, increasing user customization for over **400k+ MAUs**, resulting in **25% increase** in user session time
- Contributed to internal Android framework to reduce development time in sister CBC apps

PROJECTS

Lacs Compiler Compiler for a subset of Scala
- Supports type checking, inner functions, first class functions, closures, and runtime garbage collection via **Cheyney's Copying** algorithm
- Compiles into Mips assembly using CYK parsing and an abstract syntax tree written in **Scala**

Songify Beautiful Android Music Playback App with a Statistical Touch
- Scraped billboard.com to track top 100 songs over time in **Python**
- Wrote RESTful backend service to provide smart info, statistics, and cover art data using **Flask**