

## Harsh Dwivedi

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**TECHNOLOGY SKILLS** *Programming Languages:* Java (including Java 8: Stream programming, Lambdas), Kotlin, Golang, Typescript, Python, C/C++, Bash Scripting  
*Operations Technologies:* AWS, Docker, Kubernetes, Google Cloud Platform, Continuous Integration, Continuous Delivery, Continuous Deployment, Puppet, Azure Devops.  
*Web Backend Technologies:* Spring Boot, Golang Gorilla, PostgreSQL, MySQL, AWS SQS, AWS SNS, AWS Lambdas, AWS S3, MongoDB  
*Big Data Technologies:* Apache Hive, Apache Kafka  
*Other Technologies:* Kotlin Jetpack Compose, React

**EXPERIENCE**

*Senior Software Development Contractor/Architect* Feb 2022 - Jul 2024  
Contractor with Hewlett Packard Enterprise, Toronto, ON

- Built a Java Spring Boot based software service gateway to expose unsecured internal apis
- Gateway service configured via REST endpoints and backed by MongoDB
- Built testing infrastructure for the service using TestContainers library
- Gateway service deployed to Kubernetes on Azure cloud with a ci/cd pipeline
- Also built Golang based services to calculate purchasing discounts for customers while buying HP products

*Senior Software Development Contractor* Aug 2021 - Nov 2021  
Contractor with Publicis Sapient, Toronto, ON

- Worked on reimplementing legacy Java APIs in modern Java
- Work involved implementing Java APIs to generate business analytics reports for an Electric company client
- Worked to implement health metrics data collection in the Spring boot based app to continuously monitor health

*Senior Software Development Contractor* Mar 2021 - Jun 2021  
Contractor with Capital One Software Studio, Toronto, ON

- Worked on developing a Spring Boot based internal backend App at CapitalOne
- App receives messages and makes SOAP remote calls depending on message payload
- Produces an output message at the end of message processing
- App uses Wiremock for REST call mocking, all tests written in Junit 5

*Senior Software Engineer* Jan 2019 - Oct 2019  
DNAStack, Toronto, ON

- Developed genomics research software for Autism and Cancer research

- Developed Java based REST services running on Google cloud, all services deployed on Google Kubernetes Engine

*Senior Software Engineer*

Feb 2016 - Aug 2018

Oracle Data Cloud, Broomfield, CO

- Designed and developed enterprise ad-tech SAAS product for analyzing large online purchases transaction datasets
- Designed and developed big-data processing workflow service
- All services communicate using RESTful APIs
- Workflow microservice written in Java, built with Activiti Workflow processing engine
- Designed and implemented Java based microservices in Spring boot and Dropwizard frameworks to work with AWS technologies

*Software Engineer*

Nov 2011 - Feb 2016

Qualcomm Inc, Boulder, CO

Testing Infrastructure framework developer for Graphics team

- Built a Java based service to build, run and test Linux Kernel patches on prototype devices in cloud
- The cloud was onsite hosted set of racks running all varieties of prototype devices

GPU Kernel Driver Developer

- Design and develop Kernel Graphics Software Layer (KGSL), the kernel driver for Snapdragon Adreno GPUs.
- KGSL handles submission of commands buffers to GPU, GPU power management policies and interrupt processing for the GPU, capture a snapshot of all active command buffers and GPU registers in case of GPU hang
- Developed API tests for Kernel driver.

**LLVM 2014  
Compiler  
Conference  
Presenter**

- Developed and Presented an automated Linux Kernel Callgraph generation tool at LLVM 2014 conference
- One of the basic issues while debugging is to calculate the function calls that led to the function of interest where the crash happened.
- Instead of manually preparing the call-graph, used Clang to compile the Linux Kernel and during compilation, Clang generates call-graph of each individual file. Finally, stitch together the call-graphs from each file to get the global call-graph of the full program.
- <http://llvm.org/devmtg/2014-10/#poster> (Software Visualizer (SWViz): A tool for visually exploring Linux kernel with Clang)

**Education**

*Master of Science in Computer Engineering*  
Clemson University

2011  
Clemson, SC

*Bachelor of Technology in Electronics and Instrumentation Engineering*  
National Institute of Technology Rourkela

2009  
Rourkela, India