Amente Bekele

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Work Experience

Okta **1 year**
Senior Software Engineer *June 2021–Present*

I am currently helping build modern Kubernetes based scalable multi cloud platform for CI/CD and testing workloads

IBM **6 years**
Advisory Software Engineer *May 2015–June 2021*

I led the development of IBM Cognos Analytics mobile app built with React Native and associated backend micro-services written in Typescript/Javascript (NodeJS) and Java. I used my skills in cloud native architecture to implement a continuous delivery pipeline to Kubernetes clusters and app stores. I participated in discussions with stake holders, helped architect solutions and delivered features and fixes continuously. Prior to that, I made significant contributions to the design of IBM Watson Analytics for Social Media from its conception to delivering a scalable cloud software in production. I mainly focused on designing and implementing REST API's for data collection and visualization micro-services. I contributed to the social data analytics pipeline back-end implemented with Apache Spark utilizing Kafka and Zookeeper. In all of the projects that I worked on, I championed DevOps practices by designing and implementing automated testing, deployment and continuous integration processes using Jenkins, Docker, and Kubernetes.

IBM **16 months**
Extreme Blue Technical Intern and Software Developer Co-op *May 2013–Aug 2014*

I worked in a team to develop a prototype for Social Media Analytics application on IBM's PAAS BlueMix. I used Node.js, Java and Cloudant DBAAS technologies. I collaborated with a client to identify their requirements and delivered a proof of concept. I prepared and delivered a pitch to senior executives and the CEO of IBM on the business value proposition. During my co-op work terms, I worked on advanced log analysis tool for IBM Cognos L3 support team using Eclipse RCP. I developed Eclipse Plugin for an in house build automation tool written in Python, which improved the workflow for developers.

Carleton University **3 years**
Research Assistant, Teaching Assistant, Lab Assistant *July 2012–December 2015*

Throughout my undergraduate studies at Carleton University, I gained experience working part time in different roles. As a Research Assistant at the Bio-informatics Lab, I developed a web application for searching a protein-protein interaction prediction database using PHP and MySQL. As a teaching assistant for SYSC 4906 (special topics on ARM-Cortex M micro-controllers), I mentored twenty students in a highly project driven course. I also had the chance to develop a lab for a senior year micro-controllers course by porting over lab materials from Intel 8051 to ARM Cortex M4.

Grype Solutions **6 months**
Software Developer *July 2012–January 2013*

I developed the shopping cart UI for a web based Point of Sale Terminal software written in C# and ASP.NET. I also implemented the interface for a receipt printer and bar-code scanner.

Education

Academic Qualifications

Carleton University **Ottawa**
MASc Electrical and Computer Engineering, Data Science Specialization, *2016–September 2018*
My thesis was on *Neonatal Respiratory Rate Monitoring using a Pressure-Sensitive Mat* through the application of data analysis, digital signal processing and machine learning for patient monitoring in Neonatal Intensive Care Unit (NICU).

Carleton University **Ottawa**
B.Eng. Computer Systems Engineering , Graduated May 2016, CGPA: 10.85/12 (A) *2011–2016*

Addis Ababa University **Ethiopia**
BSc Electrical and Computer Engineering, Achieved 2nd Year Level. GPA 3.6/4 *2009–2011*

Technical skills

- **Programming Languages:** Over 25K lines: **Java, JavaScript(TypeScript), Python** Over 10K lines: **C, C++, C#** Familiar: **Scala, Go**
- **Cloud platforms:** Experience developing and deploying services to: **AWS**, **IBM Cloud**, **GCP**, **Digital Ocean**
- **Distributed Systems Frameworks and Tools:** Experience in: **Kubernetes**, **Docker**, **Kafka**, **Zookeeper**
- **Data Analytics and Machine Learning: Spark**, **MATLAB**, **Scipy**, **Tensorflow**
- **Hardware:** ARM Cortex M, Zigbee Networks, Bluetooth, Wifi, Hardware Protocols and Interfaces: I2C, SPI, USB

Notable projects as a consultant

- **SnekTek SolarDashboard**

  I developed and maintain the firmware written in C++ and web application portal using NodeJS for solar power system monitoring product currently used by over hundred customers with recurring monthly subscriptions
- **Gluecontrols.com**

  I developed and maintain the firmware in C for an advanced distance type pattern controller system for packaging applications currently in use by a number of clients in North and South America
- **WAVEFLO Leak Detection System**

  I consulted with a client to port-over and re-implement a legacy valve leak detection system written in C++ for a modern tablet and USB based platform written with C#. The project also included analyzing and re-implementing a proprietary digital signal processing algorithm. The client now uses the new software with their various customers in the power plant industry.
- **MeVPMDD**

  I implemented key features and shipped a mobile app and associated back-end to the IOS and Android app stores written in Apache Cordova / AngularJS. The mobile app is used by thousands of users across the globe for tracking menstrual cycles and PMDD symptoms.

Interests and Extracurricular school activity

- **IEEE Carleton University Student Branch** *(Chair, Computer Society Chair, Webmaster)*

  During my undergraduate studies, I was involved in the student branch starting as a volunteer and later on serving in multiple leadership roles. I developed a website that won 1st place in the 2012 IEEE Student Branch Global Web Site Contest. I also organized IEEE Code Jam junior student programming contest and IEEE Eastern Ontario Oral Papers competition. I also participated in planning and coordinating various workshops, networking events and outreach activities. In recognition of my involvement, I was awarded the IEEE Computer Society Richard Merwin award (1K) and IEEE Canadian Foundation scholarship. (10K)
- **Carleton University Robotics Club** *(Workshop Coordinator, Project Lead)*

  I led a team of ten engineering students which designed a can sized satellite system to take part in the international annual CanSat Competition. My team ranked 8th out of 36 teams worldwide in 2013 and subsequently teams that I supervised ranked 3rd and 2nd in 2015 and 2016. I also organized and presented introductory robotics and micro-controller programming workshops using Arduino IDE and C/C++ to students from 12 high schools in Ottawa. I helped the department of Systems and Computer Engineering in outreach activities by demonstrating robotics projects.
- **AlertBuddy: Wearable Emergency Alerting Device for the Hearing Impaired** *(Engineering Capstone Project)*

  I designed and implemented emergency alarm audio detection algorithm using Digital Signal Processing (DSP) and Artificial Neural Networks (ANN). I worked in a team to develop a compact wearable wrist device hardware and mobile application. For my work, I was awarded the Dr. Walter Chudobiak Enterpreneurship Award in Electrical Engineering (10K) used towards my masters education.
- **Amateur Radio, Advanced License VA3AXB**

Research

- I have authored over 10 publications with over 80 citations on the topics of digital signal processing and machine learning for patient monitoring applications. A link to my Google Scholar profile can be found below:

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