

# Amente Bekele

+1 613 400 8418 • [amente@live.com](mailto:amente@live.com) • [amente.github.io](https://amente.github.io)

## Work Experience

- IBM** **3 years**
  - Staff Software Developer* *May 2015–Mar 2018*

I recently worked on IBM Cognos Analytics, mainly on the content store and search features. Prior to that I worked on IBM Watson Analytics for Social Media. I was heavily involved from the initial prototype to delivering a scalable product that customers are using in production. I mainly focus on designing and implementing REST API's for data collection and visualization micro-services using Node.js and Java. I contributed the social data analytics pipeline back end implemented in Apache Spark, Apache Kafka and Zookeeper frameworks. I was also involved in implementing automated deployment and continuous integration process using Jenkins, Docker and Chef.
- 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 platform 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 CEO of IBM on the business value and proposition. I also worked on advanced log analysis tool for IBM Cognos L3 support team using Eclipse RCP. I implemented an inference engine feature that runs sequential database queries against a library of known issues to help users get smart recommendations for common problems. In addition I improved Eclipse RCP applications build work flow by developing an Eclipse Plugin for an in house build automation tool written in Python.
- Carleton University - SYSC4906(Embedded Micro-controller Systems)** **4 months**
  - Teaching Assistant* *September 2015–December 2015*

I tutored and mentored twenty students in this highly project driven special topics course about ARM-Cortex M micro-controllers.
- Carleton University - Department of Electronics** **6 months**
  - Lab Assistant* *July 2015–January 2016*

I re-designed labs for a senior year micro-controllers course by porting over lab materials from Intel 8051 to ARM Cortex M4.
- Carleton University - Bioinformatics Lab** **2 months**
  - Research Assistant* *May 2012–July 2012*

I worked on a web application for searching a protein-protein interaction prediction database using PHP and MySQL. I also developed a command line tool in Python to parse text files and store the data in the database.
- Grype Solutions** **6 months**
  - Software Developer* *July 2012–January 2013*

I worked on a web based Point of Sale Terminal software written in C# and ASP.NET. I developed the shopping cart UI and implemented 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 (Expected)*

My thesis is on the application of data analysis and machine learning for patient monitoring in NICU using data from pressure sensitive mats.
- 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*

## Notable Projects

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- **Engineering Project:** *'AlertBuddy: Wearable Emergency Alerting Device for the Hearing Impaired'*

I designed and implemented emergency alarm 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

- **3rd year Project:** *'Controlling a Humanoid Robot using Kinect V2'*

I worked in a team to develop a firmware for controlling humanoid robot using C and the Cortex Micro-controller Software Interface Standard (CMSIS). I developed a user software in C#, using Microsoft .NET Framework 4.5 and WPF to interface with the Kinect V2 hardware.

- **Side project:** *'International Annual CanSat Competition 2014'*

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. I worked on system firmware for a Freescale HC08 micro-controller using C to interface sensors. I also designed and implemented a ZigBee wireless mesh network using XBee radios

## Technical skills

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- **Programming Languages:** Over 5000 lines: **Java, JavaScript, C#** Over 1000 lines: **Python, C** Familiar: **Scala, C++**
- **Distributed Systems Frameworks and Tools:** Experience in: **Apache Zookeeper, Apache Kafka, Docker, Chef**
- **Data Analytics and Machine Learning:** **Apache Spark, MATLAB, Scipy**
- **Hardware:** ARM Cortex M micro-controllers, Zigbee Networks, Bluetooth, Wifi, Hardware Protocols and Interfaces: I2C, SPI, USB

## Extra-curricular activity

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- **IEEE Carleton University Student Branch**

**4 years**

- *Webmaster, Computer Society Chair, Vice Chair and Chair*

*Jan 2012–May 2015*

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 scholarship and IEEE Canadian Foundation scholarship.

- **Carleton University Robotics Club**

**3 years**

- *Workshop Coordinator, Project Lead*

*Jan 2012–May 2014*

I 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.

## Interests

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- Amateur Radio, Advanced License VA3AXB
- Google CodeJam(2012,2013), Facebook Hacker Cup(2013,2014), IEEE Extreme Programming(2012,2014) - I am not a competitive programmer, but I enjoy participating in programming competitions.