

Python Full stack Developer/Data Engineer Python Full stack Developer/Data Engineer Python Full stack Developer/Data Engineer - Cardinal Health West Des Moines, IA Experienced Python/Java full stack developer and data scientist with over 12+ years overall IT experience (Java 5 years, Python 5 years, Data Analysis/ Data Science/ Machine Learning 3 years) and with hands-on AWS experience. Strong analytical/computational background. Authorized to work in the US for any employer

Work Experience

Python Full stack Developer/Data Engineer Cardinal Health April 2018 to Present

Developed numerous python scripts for file ingestion, file processing and ingest into to SQL database Automated several processes by developing and using python scripts Developed web application using FLASK, python micro-frame work based MVC design architecture Used Jinja templates together with front-end technologies to develop state of the art front-end web application Designed and built the entire frontend using JavaScript, JQuery,HTML and CSS, HTML Developed dynamic user login forms as well as dynamic data rendering platform using JQuery DataTable Used Docker as containerization tool to deploy applications on Pivotal Cloud Foundry Used Jenkins and Concourse for CI

Freelance project in Machine Learning, IOWA Convolutional Neural Networks(CNN) January 2018 to February 2018

Used layers of Convolutional Neural Networks(CNN) to extract features Performed extensive feature selection on collection of features to identify the most informative feature for classification Tools used: AWS EC2, Machine Learning, S3, Python, Tensorflow

Freelance project Machine Learning, IOWA 2017 to December 2017

Wrote various Python scripts to preprocessed and clean the data Applied log transformation to reduce skewness Identified features with top missing data. Preformed rigorous feature engineering including identifying top cross-correlated features Technologies used: Python with its ecosystem (Pandas, Matplotlib, Numpy, Scickit-learn, Seaborn), AWS EC2, S3 and Machine Learning

Ethiopian Embassy - Ottawa, ON July 2017 to November 2017 Canada

Conducted requirement gathering Created dynamic login page Implemented role-based authentication and authorization Utilized Spring Boot module to build Restful webservice Tools used: Design Pattern, Java NIO, JMS, RESTful Webservices, MySQL, Java, Spring Boot, HTML, CSS

Advanced Blog June 2017 to June 2017

Designed and developed blogging system using Spring Boot

Implemented authentication and authorization Used Spring Boot module to build Restful webservices Tools used: STS, MVC Design Pattern, Maven, MySQL, Spring Boot, HTML, CSS, JavaScript

6. MapReduce Algorithm Using Spark 05/2017 Developed MapReduce jobs using Java and run on Hadoop clusters Created Hive Tables, wrote queries Developed several Spark scripts to analyze Chicago crime data Used Bash shell scripting to perform Hadoop operations

Tools used: Java, Hadoop, HDFS, Spark Core, Spark RDD, MapReduce Java Webservice Developer February 2015 to December 2016 Gathered business requirements, designed, developed and maintained web application Designed and developed REST webservices using Java 1.7, Spring 4, Hibernate 4 and MySQL 5.7 Used core Java to implement business logic in Service layer and Model classes Implemented Spring AOP for logging and security Leveraged ORM (Hibernate, JPA) for object relational mappings and queries Created and used XML configuration file for Hibernate and Spring Implemented Restful Web Services using Spring and Spring Boot Developed dynamic user login and web portal using Spring Boot Framework

Developed Front-End part using HTML, CSS and JSP Technologies: Core Java, Spring, Spring Boot, Hibernate, JavaScript, HTML, CSS, JSP, MySQL, Angular JS(at the initial phase of the project)

Python Developer/Data Scientist CANADA RESEARCH CENTER - Ottawa, ON February 2015 to June 2016 Ottawa, Canada 02/2015 - 06/2016 Note: This is not academic institution. It is an organization supporting industrial innovation. It works with corporate and industry. Python Developer/Data Scientist Designed UI tool that can extract and process large volume of data from aerospace radar using Python Prepared data analyses, summaries and visualization using Python libraries: Pandas, Numpy, Scipy and Matplotlib Enhanced the existing noise reduction, target detection and clutter identification algorithms Automated and simplified complex manual processes via Bash and Python scripting. Produced many high-quality work for business presentations Technologies: Python / Python Libraries (Numpy, Scipy, Matplotlib, Pandas), IDL, Bash Scripting, Statistics Tools, Data Visualization.

PAECO CANADA February 2011 to January 2015 FT), Researcher/Algorithm Developer AUSTRIAN ACADEMY OF SCIENCE - Linz, AT July 2009 to August 2010 Participated in a team to develop an ocean current forecasting system using

python and its eco-systems Develop several python scripts to automate installation, system monitoring, log analytics Implemented all developed ocean current analysis algorithms using Python Integrated visualization tool into the system using Matplotlib Solved plenty of Integer and combinatorial operation research/optimization problems Technologies: Python (Numpy, matplotlib), Bash/ Python Scripting.

Operation Research Researcher Technical University of Freiberg - Freiberg, DE April 2005 to December 2008 Developed several brand new algorithm to solve nonlinear operation research problems Implemented the algorithms using Matlab Modelled and solved real world using CPLEX and other optimization solvers Authored a book and published the result of the research on peer reviewed Journals Software developer (Matlab and Java) ADDIS ABABA UNIVERSITY - ADDIS ABABA, ET February 2002 to April 2004 Develop/Implemented numerical algorithms using Matlab Created several interactive 3D visualization tools using Java Applets Technologies: Java, Matlab, Algorithms Head of IT Division / Junior Java Programmer DEBUB UNIVERSITY July 1999 to January 2002 Coordinated computer systems maintenance and troubleshooting Handled hardware and software installation, configuration, repair and management Took an instrumental role in designing and developing a student registration and records management system which could serve over 1,500 end users. Technologies: Java, AWT, MySQL.

Head of IT / Principal Trainer ET July 1998 to July 1999 Coordinated IT operations, maintenance, and troubleshooting Established training guidelines for computer applications for new and existing employees Built an employee hour tracking system PREVIOUS PROJECTS ?

JavaScript project for Department of Mathematics, Maharishi university of Management. This is a web based application to help students learn the basics of fractals and Conway Game of Life. This can be seen on my github page <https://ayalewgm.github.io/GLife/> ? Python implementation of multilevel decision problem This was the work started back in 2009 and continued until 2011. The primary goal was to write python implementations of my own and other algorithms ? Hand Written Character recognition software using artificial neural network. This is one of my early projects which I did as part of my stay at International Centre for Theoretical Physics in Trieste, Italy. ? Library Management System, Maharishi University of Management (April 2017): Built a desktop application

for library book management, with super admin, admin, librarian, and user roles. Functionalities included member management, book inventory management, and book checkout. Built with JavaFX, Eclipse, and CSS.

• Interactive Map Application, University of California San Diego (August 2016): Created an interactive desktop application providing a real-time map view on a global scale. Used Java FX, process libraries, Eclipse, and CSS.

• Text Editor with Word Suggestion, University of California San Diego (August 2016): Programmed a text editor with multiple built-in functions, including a text difficulty level indicator, real-time spelling suggestions, and Markov text generation. Used JavaFX and CSS in Eclipse.

Education Master of Science in Computer Science in Web Architecture Maharishi University of Management - Fairfield, IA December 2018 Ph.D. in Dr. Rer. Nat Freiberg University - Freiberg, DE Master of Science in Applied Mathematics in Optimization & Its Application to the Design of Algorithms Addis Ababa University - Addis Ababa, ET Bachelor of Science in Mathematics in Statistics & Probability College of Teacher Education - Addis Ababa, ET

Skills algorithm (4 years), CSS (4 years), Java (8 years), MySQL (4 years), Python (4 years)

Additional Information CORE COMPETENCIES Languages: Python, Java, JavaScript Big Data Technologies: Hadoop(HDFS, MapReduce), HIVE, Pig, Spark, YARN Web Related: HTML, CSS, Bootstrap, HTTP, XML, JSP, JSF Frameworks: Flask, SQLAlchemy, Spring, Spring Boot, Hibernate Web Services: RESTful webs services Building Architecture: Microservices, Monolithic Database: SQL Server, MySQL, MS Access Machine Learning: Deep Learning, ANN, CNN, RNN, Linear and Logistic Regression, SVM, KNN, K-Means, XGBoost, Decision Trees, Ensemble methods Data Analysis: Pandas, Matplotlib, Numpy, Scipy Design Patterns: Singleton, prototype, Factory, Abstract Factory, Builder, Adapter, Bridge, Fa ade, Proxy, Visitor, Template, Strategy, State, Observer, Mediator, Iterator, command and chain of responsibility as well as MVC Methodologies: Agile, Waterfall Tools: PyCharm, Jupyter Notebook, Eclipse, IntelliJ IDEA, Microsoft Visual Studio, SQL Server Management Studio, MySQL Workbench, StarUML, Docker ML Tools: Scickit-learn, Seaborn,Tensorflow, Keras Platforms: Linux, Windows Unit Testing: JUnit, Unittest, Pytest Source Control: GIT/GitHub Continuous Integration: Jenkins, Concourse Cloud computing: AWS (EC2, Machine Learning, EMR, S3), Cloud Foundry Others: CPLEX, Putty, WinSCP, SVG, Data

Structure and Algorithm

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