Alem H. Fitwi

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Summary:

A seasoned Engineer with a wealth of experience in Electrical & Computer Engineering, Computer Networking and Security, Business Intelligence, Data Analytics, Data Science and Machine Learning/Deep Learning. I tend more toward Data Science using Python3, Machine Learning and Apache Spark for cluster or parallel computing! Excellent in Python3 Programming!

Professional Experience:

- *Graduate Assistant-Data Analytics Specialist*: Doing Business Intelligence (BI), Data Science and analysis on such input datasets as 15-year Student Opinion of Teaching (SOOT), Historical and current Admission Data, and 25 years research data since August, 2017. Their sizes range from 1GB to 5GB. The outputs of the analysis are mainly actionable data and insightful reports (in CSV, EXCEL, SAS, PDF, and RTF/WORD formats as requested) and graphical plots (line graphs, bar charts, pie charts, and scatter plots) generated using SAS, SQL, Python, and Machine Learning/Deep Learning. And Industry grade dashboards and database designs and developments using Python and MySQL.
- *Electrical & SCADA Engineer*: successfully worked as Electrical Engineer in a 120MW Wind Farm project (Ashegoda, Mekelle, Ethiopia) and as a SCADA Engineer in another 153MW Wind Farm Project (Adama, Ethiopia).
- *Teaching Career*: Graduate Assistant II, Assistant Lecturer, Lecturer, & Assistant professor in Mekelle University.
- *Research*: Carrying out research works on Privacy-Preserving Edge-Services using optimized and Light-weight Deep Neural Networks and scrambling techniques. Edge computing technologies, Deep-learning/Machine Learning, dynamic chaotic techniques, security tools, a helluva Python programming, & SQLite are employed. Published more than 14 conference papers & articles, and a book chapter so far.

Project Experience:

- *Datacenter*: managed to build modern, tier-III datacenter for Mekelle University while Director of ICT
- *University ERP*: managed to get the Mekelle University business processes automated while Director of ICT
- *Wind Farms*: successfully took part in two mega wind farm projects as Electrical & SCADA Engineer in the design, supervision, and commissioning processes.

Leadership:

- *Information & Communication Technology Director*: managed the ICT directorate of Mekelle University (Ethiopia) for 3 years, responsible for running the entire university (has a population of more than 35, 000 students and staff) campus area network and ERP. The directorate had 6 departments and 106 IT staffs of various professions.
- *Head and Program Coordinator:* Head of the Computer Engineering chair (11 staffs), and program coordinator of the department of Electrical and Computer Engineering (79 staffs), Mekelle University, for one year each.

Education:

Binghamton University, State University of New York, Watson School of Engineering *(Binghamton, NY, USA)*
PhD in Electrical & Computer Engineering (Edge Computing, and Privacy)   **Expected: August-September 2021**
Status: Coursework is completed with a perfect GPA | ABD.
Addis Ababa University *(Addis Ababa, Ethiopia; P.O.Box 1176)*
M.Sc. in Electrical & Computer Engineering (Computer Eng'g, Thesis: Chaotic Cryptography) **Earned: September 2010**
Bahir Dar University *(Bahir Dar, Ethiopia; P.O.Box 79)*
B.Sc in Electrical & Computer Engineering (Thesis: Cryptography for Image Communication) **Earned: July 06, 2006**

Technical Skills:

- *Advanced Python Programming + SQL + Machine Learning*: For both academic and professional purposes since 2014, mainly for Data Science and Analysis (Numpy, Pandas, Scipy, Scikit Learn, Seaborn, Matplotlib, Plotly and Dash), for Deep Learning (Lightweight DNN for Conserving Privacy in Edge Devices as part of my PhD research), Network and Network Security Programming (Device Configurations, Extensive String Manipulations using RE, DNS Activity Monitoring, and Network Scan Detection projects), and industry grade dashboard development.
- *SAS Programming + SQL*: For data analysis (data preprocessing, transforming, mining, visualization, and reporting in xlsx, pdf, & rtf formats) since August 2017 while working as data analyst for 20 hours a week.
- *Network Administration & Security*: Very good expertise and experience in IT Networks and Operational Networks (SCADA) design, installation, and administration. I had worked as Network Admin, SCADA Engineer, & ICT Director, and was trained and certified in Network Administration, Data Center Infrastructures, and Network Security.