

CHANDRASHEKHAR (CHAD). B. KALNAD

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Experienced professional with 2+ years of industrial experience

PROFESSIONAL SUMMARY

- Professional qualified **Data Scientist/Data Analyst/Machine Learning Engineer** with around 3+ years of experience in **Data Science, Analytics and Machine Learning**
- Experience of **AWS Sagemaker, AWS EC2 and AWS S3**.
- Experienced with machine learning algorithm such as **KNN, SVM, random forest, neural networks, linear regression, logistic regression, and k-means**
- Involved in the entire data science project life cycle and actively involved in all the phases including data cleaning, data extraction and data visualization, data automation and machine learning with large data sets of structured and unstructured data.
- Extensive experience in Text Analytics, developing different Statistical **Machine Learning** solutions to various business problems and generating data visualizations using **Python, Tableau, MATLAB and PowerBI**.
- Hands on Expertise on Classification, Regression, Time Series Data using various packages in **MATLAB and Python**.
- Adept and deep understanding of Statistical modeling, Multivariate Analysis, model testing, problem analysis, model comparison and validation.
- Solid ability to write and optimize diverse **SQL** queries
- Independently work on end-to-end development of **NLP** models to build sophisticated and extendable natural language-based search engine and used **NLP** (Natural Language Processing) for Spam Detection, Sentiment Analysis

EDUCATION

- **MS in Electrical Engineering - Intelligent Systems**, Clemson University, USA **Aug'17 - Aug'19**
Pattern Recognition, Embedded computing, Parallel programming, TensorFlow for AI, Machine Learning & Deep Learning, NLP in Tensorflow, Python programming, Modern Big Data Analysis with SQL, Data visualization and communication with Tableau, AWS Fundamentals, AWS Machine Learning, Statistics, Introduction to Digital Signal Processing.
- **Bachelors in Electronics & Telecom Engineering**, DKTE, Shivaji University, India **Jul'12 - May'16**

SKILLSET

Programming Languages	Python, MATLAB, C, Visual Basic, C++
Operating systems	Windows, Linux
Applications	MATLAB, MS-Office, Impala (SQL), MS - PowerBI, Tableau
Libraries	Tensorflow, Scipy, Pandas, Numpy, Keras, NLTK, Matplotlib, Seaborn etc
Areas of Interest	AI/Machine Learning, Data Science and Engineering, Data Analysis, Deep Learning/Neural Networks, Embedded Systems programming

EXPERIENCE

Organization - Clemson University **Sep'19 - Sep'20**

Role - Machine Learning Researcher

Environment - Python, MATLAB, Tableau, Simulink, MS-Excel, MS-PowerPoint

Projects/ Tasks -

- ❖ Reviewed/analyzed current Photovoltaic based IoT systems to improve scalability and efficiency.
- ❖ Extracted data from **Kaggle** in **XLS** format and prepared data for exploratory analysis.
- ❖ Modeled a Simulink solar water heater to predict energy output.
- ❖ Performed **cluster analysis** for calculating variable correlations.
- ❖ Applied regression models such as **Linear regression, RidgeCV, Decision Tree regression, Support Vector regression, SGD, ADABOOST, XGBOOST** for radiation prediction in **Python** and **AWS Sagemaker**.
- ❖ Predicted future radiation values with **fbprophet**.

Organization - ZF transmissions **Jun'18 - Apr'19**

Role - Data Scientist

Environment - Python, Visual Basic, PowerBI, Android, MS-Excel, MS-PowerPoint

Projects -

- ❖ **Measurement data automation (Python, VB)**: Automated the transfer of measurement results between production floor and lab, resulting in data traceability and process efficiency.

- ❖ **MetLab welding inspection and data validation (Python):** Created an efficient and automatic system for data entry, database generation and DMC (Data Matrix Code) creation resulting in automation and tracking.
- ❖ **Traceability (PowerBI):** Troubleshooted and automated traceability process by creating PowerBI dashboards for floor 10 areas and parts. Allowed management to keep track of processes and its performance.
- ❖ **Cosmino connectivity loss warning and automated error detection system (Python):** Increased Python code efficiency and created a database comparator tool for Cosmino connectivity loss warning and error tracking.
- ❖ **Smart Glasses – Industry 4.0:** Developed and tested applications such as training (implemented), automatic availability of data using QR and cycle-time reduction. Was project lead and prime innovator.

Tasks -

- Communicated the results with quality and manufacturing teams for taking best decisions.
- Collected data needs and requirements by interacting with the other departments.
- Demonstrate basic business knowledge by translating business rules into coded solution, resolve complex problems, receive moderate direction, provide no direction to others, and possess working knowledge of **Python and VB**
- Develop project requirements and deliverable timelines; execute efficiently to meet the plan timelines.
- Automated recurring reports using **VB and Python** and visualized them on **BI** platform like **PowerBI**.

Organization – Ramp Automation

Jun'16 - Aug'17

Role – Data Scientist

Environment – Python, Visual Basic, MS-Excel, SQL, MS-PowerPoint

Projects/ Tasks -

- ❖ AWS Cloud management and responsible for code build, release and configuration on **Amazon EC2**
- ❖ Experience and good knowledge in AWS (Amazon Web Services) services like **EC2, S3, EBS, EFS**.
- ❖ Performed AWS Cloud administration managing and **ETL** operations and **SQL** querying on **EC2, S3** and **Amazon RDS**.
- ❖ Participated in all phases of **data extraction, data cleaning, data collection**, developing models, validation, visualization
- ❖ Developed **Python** to collect data to implement business transformation rules to the data to enable analysis of theories to occur.
- ❖ Analyzed, automated and visualized data and used ML techniques for classification and regression analysis.
- ❖ Performed model tuning and selection by using cross-validation, parameters tuning to prevent over fitting.
- ❖ Validated the machine learning classifiers using ROC Validated the machine learning classifiers using ROC curves
- ❖ Performed **Data Profiling** to learn about behavior with various features such as traffic pattern, location, Date and Time etc.
- ❖ Executed basic PLC programming (Ladder Logic) for machine automation.

ACADEMIC & PERSONAL PROJECTS

- **COVID19 data analysis (Python, Tableau, SQL):** Extracted, transformed, visualized, and analyzed COVID 19 data by country. Performed total and new tests, cases, deaths analysis. Additionally, analyzed age, GDP per capita, poverty, diabetes prevalence, smoking rate, population density, cardiovascular death rate by country.
- **Sentiment analysis (Python):** Created a system to analyze the sentiment of Amazon product reviews. Calculated subjectivity, polarity, frequently used words, and plotted reports.
- **Neural Network with Tensorflow (Python):** Programmed convolution neural network for multiclass image classification and recurrent neural network for text recognition. Calculated efficiency and loss for training and validation set.
- **Sports data analysis (SQL, Tableau):** Extracted, queried, visualized Indian Premier League (IPL) data for 9 seasons. Performed team, match, toss, venue, most valuable player (MVP), batsmen and bowler analysis.
- **Salary data analysis (Tableau):** Analyzed salary data of 5 years for different job titles, states in the US, visa type, salary trend over time, underpaid professions.
- **Bayesian classifier (MATLAB):** Designed and implemented a Bayesian classifier that uses prior probability, Gaussian density for classification. Classifier was trained/tested on 15k 4D data points (containing 3 classes) and its efficiency was analyzed.
- **Analysis and comparison of Algorithms for Supervised and Unsupervised learning (MATLAB):** Implemented K-NNR and Ho-Kashyap classifiers using linear and RBF SVM models. Also, implemented c-means classifier for unsupervised learning and classification.
- **Analysis and comparison of Algorithms for Lossless Data Compression (C):** Implemented RLE (Run-length encoding) and LZW (Lempel–Ziv–Welch) codec algorithms and compared the space/time efficiency for various file formats (PPM image, text and binary).
- **Triangle rendering (C):** Implemented an algorithm to render triangles. The program reads PLY vertices and faces, calculates the bounding box on the vertices, the camera position and orientation then determine the 3D coordinates bounding the image and renders triangles into a complete 3D image and writes it into a PPM file.
- **Traffic circle problem (C):** Programmed the traffic circle on MPI and collected the results on up to 16 processors. Also, created my own random number generator. Gathered data about runtime, efficiency, and speedups.
- **Demographic Data Scraper (Python):** Built a scraper that extracts data from the most populated cities in the US.