CHAITANYA KHIRE

C/O   Flat No: C-2 Rohan Garden Mahatma Society Kothrud| Pune| 8983451923|devchait@gmail.com

Summary

Research experience in Neural Network, Statistics, ETL and Database Query Optimization internals. Implemented thematic object detection algorithm from scratch in C++ using OpenCV. Hands on experience in creating and deploying NN models. Good Software Engineering Skills. Experience in developing Big Data ETL jobs using Apache Beam, Apache Calcite, Google Cloud, Google BigQuery, PubSub.

Objective

Gain Proficiency in Software Development and Artificial Intelligence for developing the next generation efficient and highly scalable intelligent software's by utilizing the state of art algorithms and technologies

Key Skills

Programming Language	Database/ DataWarehouse	Developing Tools	Version Control	Tools/ Technologies
Java 1.8, Groovy, R and Unix Scripting, C++, Python	My SQL, BigQuery, Oracle	Intellij, Eclipse Mars, GCP BigQuery, R Studio, Visual Studio, VSCode	Gitlab, Bitbucket	OpenCV, Apache NLP, Tensorrt, Apache Calcite, Excel Power BI, Apache Beam Dataflow 2.4 and 1.9 GCP: SQL, Storage, Pub/Sub, BigQuery, Compute Engine, Dataproc

Certifications

1. *Data Science with R*
2. *Core Java Concept Foundation*
3. *Oracle Workforce Development Program, Web Components Development with Servlets, & JSP's Java EE 6*

CemtrexLabs Pune 7ᵗʰ February 2020 – Present
Software Engineer

- ➢ **Product Development**
  - ● **Role: Product Designing and Neural Network Designing**
  - ● **Responsibilities:** Setting up the standards of Product Development, Setting the CI/CD pipelines and overall development strategy, Architecting the complete Product, Research and Develop the fast custom Neural Networks, Formulating the Product Features.
  - ● **Contribution:**
    - ➢ Design, Modelled, Coded, Tested and Delivery the Alpha of Smart Video Surveillance. Currently working on Beta version and designing the API for using multiple backends and various NN models.
    - ➢ Improved the Performance by 10% on multi-channels of YOLO v5 by customizing the model
    - ➢ Improved the Core API's to support more channels at 16 FPS with better accuracy
    - ➢ Enhanced the Core API to support multiple backends on the fly
    - ➢ Design and Delivered New Tracking algorithm which is 30% Faster than Kalman Tracking and 50% more accurate.

Datametica Pune   **7ᵗʰ January 2019 to 5ᵗʰ February 2020**
Senior Member of Technical Staff

- ➢ **Product Development**
  - ● **Role: Leading Team and Equally contributing to development**
  - ● **Responsibilities:** Research the stages in Datastage, design and developed the similar features for Google-bigquery and standard sql, Study the Apache Calcite Code to know the way of using it to create a query converter tool, creating issues in gitlab, reviewing the code as per the company's standards, creating the documentation maintaining the branches in gitlab
  - ● **Contribution:**
    - ➢ Designed and implemented various features like Surrogate-Key generator, Continued Stage, Sorting Stage, Join Stage and custom code stages for Raven-ETL using Apache Calcite, Grovy and python.

Tata Consultancy Service Pune   *30th August 2015 - 4th January 2019*
System Engineer- Software Developer

- ➢ **Product Development**
  - ● **Roles:** Developer
  - ● **Responsibilities:** Cooperating with different teams on module interfaces as per each SCRUM cycle, developing and implementing the respective algorithms programs, coordinating with Senior Data Scientist, data cleaning, hypothesis testing, training the regression and forecasting models, reporting the results to the clients, Completely own all the tasks from analyzing of data to creation of tool and supporting till the tool is stable.
  - ● **Infrastructure/Technologies:** R, C++, Java, OpenCV, Apache Beam Dataflow, Google BigQuery, Google Cloud Computing
  - ● **Contributions:**
    - ➢ Design and Developed the Networking algorithm to solve the parts distribution supply and demand problem for Inventory management.
    - ➢ Implemented various time-series tests to decide the product sales type like seasonal, intermittent or regular. Trained and tested the linear regression model, classification models and First Order Exponential, Second Order Exponential and seasonal forecasting models using R, created and presented reports of models to client.
    - ➢ Implemented complex and highly scalable ETL jobs using Google Dataflow 2.4, Utilized various dataflow functionality like ParDo custom DoFn, combine, GroupBy, CoGroupBy to develop a solution to process 1.5 PB of data in 10 days.
    - ➢ Used Apache OpenNLP for creating knowledge base from the resolutions and regular comments on the incident. Used bag of words, incident base dictionary keywords, text structuring to analyze the solution and custom feature marking scheme and categorize the incident resolver technique
    - ➢ Designed the RNN for summarizing the incident solutions for Knowledge base tool

Research Experience

- ➢ **Thematic Object Detection from Video and Image Data:**
  Thematic Object is the most commonly occurring object of any shape in given set of image or video data. Proposed and Designed the Ensemble architected inside the network for solving thematic object detection problem using back propagation and feedback input on the fly without prior training. The proposed Neural Network has layers categorized into image normalization, Key frame extraction in case of video data, Feature detection, Feature extraction, Best features set selection, kernels for grouping the local features, global kernel for co-grouping, final layers performing graph mining and extracting the common object. Utilized various algorithms from OpenCV like SIFT detection, ORB detection, image color normalization, histogram normalization, edge detection, segmentation, face detection, curve detection. Customized original LSH v1 for SIFT, ORB features aware by image localization. Customized the curve detection kernels for 16x16 matrix in order to retain and combine the curve of the object. The final positive negative result detection involves human review to adjust the feedback weights on the level of groups among images. Designed complete solution using C++, OpenCV on windows 8 system.

Education

1. **SGGS CoET Nanded:** M.TECH Computer Networks and Information Security | 9.25 CGPA | 2013-2015
2. **Sipna CoET Amravati:** B.E Computer Science | 67.83 % | 2009-2013

Achievements

1. *Star of The Month Award TCS*
2. *On The Spot Award TCS*
3. *Certificate of Appreciation for Live Webcasting of Critical Polling Booths during Loksabha Election 2014*
4. *Certificate of Excellence Performance Datametica*

Declaration

I hereby declare that all the details presented above are true to the best of my knowledge.

Date: / /

Place: Chaitanya Rajendra Khire