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Mukesh Gadupudi

SUMMARY

There are three things I love - Coding, Communicating and Chocolate Cake. I have a Bachelors in Computer Science from the National University of Singapore with a **focus in AI and ML**. I am also a **Software Engineer** with 6+ years of experience in building **multiprocessing python applications and overcoming complex architectural, and scalability issues**. Proficient in **statistical analysis, data modeling, geospatial data science, machine learning, deep learning algorithms**, and well-versed in languages, such as **Python, Java, Go, SQL**. Experience in startups and MNCs make me well suited to roles that require navigating uncertainty, but with high levels of autonomy.

SKILLS

- **General:** Statistical Analysis, Data Modelling, ML, Deep Learning
- **Languages:** Python, Java, Go, SQL
- **ML Frameworks:** TensorFlow, Pytorch, Scikit-Learn, Pandas, Numpy, GeoPandas, PySal, Cuda
- **SWE Frameworks:** FastAPI, Django, GraphQL, Pydantic, Pytest, Swagger, Wagtail
- **Containerization:** Docker, Kubernetes
- **Databases and Warehouses:** MongoDB and SQL databases, Snowflake

EXPERIENCE

Zeus Living, San Francisco — *Machine Learning Engineer*

Jan 2021 - Current

Tech Stack: Python, FastAPI, GraphQL, TensorFlow, Scikit-Learn, Statistical Analysis

- Designed, developed and maintained a business-critical system that **generates over 2M prices a day.** The system serves both internal users and customers to provide accurate information about pricing, availability, and search ranking of all listings.
- Lead the data team to develop Demand Zones, the product currently being used to pilot the expansion of Zeus to new places using **GeoPandas and PySal**. Conducted geospatial analysis and visualization to understand the demand for furnished homes by region. This facilitated market expansion strategies and reduced conversion time of leads by 15%.
- Developed pricing algorithms and built end to end pricing systems using **TensorFlow, FastAPI, GraphQL** to price Zeus listings. Used a combination

of Search Demand, Occupancy and Price Elasticity which helped reach our target occupancy of 92%.
- Developed **parallelised python algorithms using GraphQL Data Loaders** which sped up our systems >10X for various projects.
- Mentored interns to build systems such as Flex Lease Pricing, Similarity scoring model using **Scikit Learn, Pandas** which sped our new lead pricing by about 6 hours / lead on average.

Goldman Sachs, Singapore — *Software Engineer (Commodities Trading and Sales Tech)*

Jan 2020 – Jan 2021

Tech Stack: Java, Slang, SecDB, Data Modeling

- Worked with Frontline Commodities Sales and Trading Tech to help propagate and analyze the real- time risk of the positions being held using **Java and proprietary Database called SecDB**.
- Secondary responsibility as a trading desk support covering a range of daily tasks, including **PNL report generation, risk server maintenance**, trade propagation, and system maintenance.
- Worked closely with traders, clients, valuations, and operations to ensure the **accurate and timely booking of trades** in our various booking entities.

VISA, Singapore — *Software Engineer*

May 2018 – Jan 2020

Tech Stack: Golang, Swagger, Jenkins

- Built internal notification and patching microservices **using Go**.
- Developed the architecture to enable an **active-active scenario with around 99.9% uptime** and resilience to handle any catastrophic events or failure for the microservices.
- Extensively tested, documented and set pipelines for the project using tools like **Swagger and Jenkins while following a TDD plan**.

Qsee.io, Israel — *Algorithm Developer and Data Science Contractor*

Jan 2017 – May 2018

Tech Stack: Python, Flask, Django, Scikit-Learn, Flutter, Pandas, Numpy

- Applied various **ML algorithms using Scikit Learn and Pandas** to analyze and find trends in Quality for products from various MNCs like Stanley and AlHadera showing they can reduce their revenue spent on quality checks by over 15%.
- Built an **Android and iOS application using Flutter** for workers in MNCs in Israel to input Quality details of the products speeding up the Quality checks by over 4 hours a month.
- Created a **real-time web-based application with Flask and Django** and integrated it with other services including **Predictive Algorithms and Front End Analysis DashBoard**.

EDUCATION

National University of Singapore (NUS), Singapore

Bachelor in Computer Science

- Graduated with Highest Distinction in Machine Learning and AI
- Computing Tennis Team Captain
- Excellence in teaching award for work as an undergraduate teaching assistant

Technion Israel Institute of Technology, Israel

Bachelor in Technopreneurship

- NUS Overseas Program

PROJECTS

FINDING WALDO

Tech Stack: Python, Computer Vision Algorithms

- Implemented CV algorithms from scratch to find Waldo from images without using deep learning of any sort.

TETRIS SOLVER

Tech Stack: GPU Python (CUDA)f, Genetic Algorithms, Noise Cross Entropy Algorithm

- Created a self-learning Python multiprocessing Tetris Game from scratch which could clear on average over a million rows using Genetic algorithms, Noisy Cross Entropy.

WESEE

Tech Stack: Java, OpenCV, Python

- Built an Android application as a Proof of concept which helps predict the fatigue level of a driver using a proprietary Machine Learning Algorithm, Computer vision libraries and Android Studio.

GEEGLE

Tech Stack: AWS, Python, TensorFlow, GCP

- Developed a chrome extension in a team of three which could search users' history not only based on previous searches but also on the content they

have read or an image they might have seen using Nodejs, TensorFlow, Elasticsearch and Google Cloud Platform.

LOAN IDENTIFIER

Tech Stack: Python, Django, Scikit-Learn, Pandas, Numpy

- Developed a web application using Data Science and Machine learning which can predict the loan needed to take based on various factors like current economic status, years of study, location etc. for Microsoft Data Science Hackathon.

CNF SAT SOLVER

Tech Stack: Java, AI Algorithm (CDCL)

- An in-house implementation of an SAT Solver using the Conflict Driven Clause Learning (CDCL) algorithm to check the satisfiability of an input Conjunctive Normal Form (CNF) formula in DIMACS format.

SPA (STATIC PROGRAM ANALYSER)

Tech Stack: Java

- Static Program Analyzer (SPA for short) is an interactive tool that automatically answers queries about programs. In this project, we design and implement an SPA for a simple source language.

TEACHCONNECT

Tech Stack: Java

- Lead a team of four people to develop a highly sophisticated CLI based address book application strictly adhering to Software Engineering Principles.

DIGIWRITE

Tech Stack: Java, Python, AWS Sage Maker

- Developed an android application based on Machine Learning which supports automatic document recognition, Optical Character recognition and Language translation along with various other features.

ZEUS ROBOT

Tech Stack: Java, EV3 Console

- Built a self-guiding robot which can navigate and follow a line, recognize colors and fight other robots using the EV development console.

AWARDS

- National Talent Search Scholar
- NSE Junior Science Olympiad
- Runner Up BoshVille Hackathon

- Biz Prediction Contest Winner