ASHNA ABRAHAM

SOFTWARE ENGINEER

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Objective

Engineering graduate with extensive experience in software development. A machine learning and data science enthusiast seeking opportunities to pursue post-graduation specializing in Artificial Intelligence.

Key Skills

Languages: PYTHON, JAVA, JAVASCRIPT, TYPESCRIPT **Databases:** MONGODB, DYNAMODB, SQL **Version Controls**: GIT

Cloud Platforms: AWS, HEROKU **CI/CD**: GITHUB ACTIONS, SPINNAKER, JENKINS

Web: HTML5, CSS3, NODE JS, REACT JS, REDUX, GRAPHQL, PROGRESSIVE WEB APPS (PWAs), SERVICE WORKERS, NPM, REST APIs

Python Libraries: PANDAS, NUMPY, MATPLOTLIB, SEABORN, TENSORFLOW, KERAS, SCIKIT-LEARN, SPACY, NLTK, CV2, PYENV

Experience

SOFTWARE ENGINEER – DELIVERY HERO SE Germany (2021 August – Present)

Vendor Portal

The vendor portal is a back-office portal open to Delivery Hero partners including local Restaurants and shops setting them for success by providing them platforms to scale their business. The portal enables partners to independently start, run, grow and evolve their business.

- Development of Vendor Onboarding and Incubation Plugin to enable vendor to go live for delivery from the first day.
- Designing, architecting and development of scalable and testable User Interfaces and reusable ReactJS based libraries
- Collaborating with Data Analysts to study user behavior and usability of features using data from Google Analytics tracking.
- Setting up automated Continuous Integration/ Deployment pipelines using GitHub Actions, Spinnaker and AWS
- Development and maintenance of Node.JS based microservices and integration with multiple backend services across platform
- Conduct end user interviews, Works on product Launch plans, feasibility studies, code quality maintenance and mentoring.

SOFTWARE ENGINEER - CISCO (2019 April – 2021 August)

Cisco DNA Center

The Cisco Digital Network Architecture is a network management and command center for enterprise networks. The dashboard activates features and capabilities on network devices using Cisco DNA software. It delivers intent-based networking for enterprises encompassing automation, analytics and open platform capabilities

- Leading development of Device Installation, Network Design and Logging systems
- Implemented dynamic user defined workflows and navigation paving way for improved adoption of product
- Design and development of User Telemetry dashboard to internally identify key customer interests and preferences.
- Improved page loading time and provided offline support using Progressive Web Apps methodology.
- UI integration with RESTful API based web services and Development of Node.js and python-based backend services.
- Code review and mentoring of Junior developers and interns

SENIOR ENGINEER, PRODUCT DEVELOPMENT – ENVESTNET INC (2015 June – 2019 January)

Executive advisor dashboard & Client Portal

Executive advisor dashboard is a single platform for premium financial advisors to monitor, manage and evaluate financial data of all their clients represented in data charts. Various analytical data is present to advisor embedded in high charts enabling them to make

better business decisions. Client portal is a platform for end investors to view status reports of their assets and enabling them to automate service requests which were traditionally back-office operations.

UMP Platform & Tamarac

UMP and Tamarac are rebalancing, trading and reporting platforms mainly for financial advisors housed by financial institutions. The platforms are written in Java and C# respectively.

- Developed java services to ingest, enhance, and load daily trading data into the platform.
- Development of key customer facing pages of Client and Advisor Portals including Accounts, Service Request and Budgeting
- Automated 10+ service requests which were traditionally back-end operations.
- Development of reusable and scalable components and libraries.
- Implementation of token-based authentication workflow and integration of multi-factor authentication using Twilio.

Data Science Projects

MOVIE RECOMMENDATION SYSTEM

A movie recommendation system based on matrix factorization algorithm implemented with Python Flask framework and react JS front end. The application is based on MovieLens movie rating dataset with additional fields from 'The Movie Database' API's. It is deployed in Heroku link, git .

FACE RECOGNITION SYSTEM

A Face recognition system developed using embedding from Google's FaceNet architecture, trained to detect the last nine presidents of the US. The implementation is in Python Flask framework with React front end. MTCNN Neural network is used to identify the face bounding box of image, which is fed to a pre-learned FaceNet network to get face embeddings. This embeddings is used to train Support Vector Classifier (SVC) to identify faces (git). Sample Implementation : Link

COVID RELATED ARTICLE CLUSTERING & COVID DATA EDA

Clustering of scholarly articles about COVID-19, SARS-CoV-2, and related coronaviruses. The application helps to easily access relevant reference materials by searching a medical question related to virus. The notebook clusters articles into 50 topics based on Latent Dirichlet allocation and returns the articles in closest to the given questions (link).
Exploratory Data Analysis of COVID cases in different regions with data from Johns Hopkins University data repository (link).

WALMART SALES FORCAST USING TIME SERIES DATA

Notebook to forecast the future sales of Walmart from historical data sourced from Kaggle. A Light Gradient Boosting (LGB) model is used to predict sales from rolling average sales and other categorical data fields (link).

OTHER PROJECTS

Tweet Sentiment Analysis, Sentiment Extraction from Text messages, Melanoma classification from images, Titanic Survival Prediction and Big Market Sales prediction (git).

Education

BACHELOR OF TECHNOLOGY - ELECTRICAL AND ELECTRONICS ENGINEERING, 2011-2015

Mar Athanasius College of Engineering (Mahatma Gandhi University, Kottayam, Kerala)
CGPA: 8.37/10 - **First Class with Honours**

ALL INDIA SENIOR SCHOOL CERTIFICATE EXAMINATION (12TH), 2011

Central Board of Secondary Education
Percentage: 94.6

ALL INDIA SECONDARY SCHOOL EXAMINATION (10TH), 2009

Central Board of Secondary Education
Percentage: 90.2

Certifications

DEEP LEARNING SPECIALIZATION BY DEEPLEARNING.AI (COURSERA, CERTIFICATE LINK)

Courses

- **Neural Networks and Deep Learning:** Forward propagation, Back propagation, Hyperparameters, Vectorized neural network.
  - Planar data classification, Building deep neural network
- **Improving Deep Neural Networks:** Hyperparameter tuning, Regularization, Optimization & Normalizing, Gradients, Tensorflow
- **Structuring Machine Learning Projects**: Optimizing metrics, Train/Test/Dev set, Avoidable Bias, Improving performances, Error analysis, Transfer learning
  - Autonomous driving case study, Bird Recognition case study
- **Convolutional Neural Networks**: Computer vision, Object Detection, Residual Networks, Inception Network, Keras, YOLO
  - Car detection with YOLO, Art Generation with Neural Style Transfer, Face Recognition
- **Sequence Models:** RNNs, Language Model, Sequence Generation, LSTM, NLP, Word2vec, GloVe, Attention Model
  - Jaz improvisation with LSTM, Sentiment Classification, Machine Translation with Attention, Trigger word detection

MACHINE LEARNING SPECIALIZATION BY UNIVERSITY OF WASHINGTON (COURSERA, CERTIFICATE LINK)

Courses

- **Foundations**: A Case Study Approach
  - Predicting house prices, Sentiment Analysis, Retrieving Wikipedia articles, Recommender Systems & Image retrieval
- **Regression**: Linear, Polynomial regression, Ridge Regression, K-fold validation, LASSO, Nearest Neighbors & Kernel Regression
  - Implement gradient descent, predict house prices using linear, polynomial regression and k-nearest neighbors
- **Classification**: Linear Classifier, Logistic Regression, regularization, Decision Trees, Boosting, precision & recall
  - Predicting sentiment from product reviews, Identifying safe loans with decision trees
- **Clustering & Retrieval**: Nearest Neighbor Search, K-means, Mixed Modeling, Latent Dirichlet Allocation, Hierarchical Clustering
  - Wikipedia articles clustering

MACHINE LEARNING BY STANFORD UNIVERSITY (COURSERA, CERTIFICATE LINK)

The course includes numerous case studies and applications to apply learning algorithms for text understanding (web search, anti-spam), computer vision, medical informatics, audio and images.
Topics include:

- Supervised learning (support vector machines, kernels, neural networks).
- Unsupervised learning (clustering, dimensionality reduction, recommender systems, deep learning).
- Best practices in machine learning (bias/variance).

PYTHON FOR DATA SCIENCE AND MACHINE LEARNING BOOTCAMP (UDEMY CERTIFICATE LINK)

- Programming with python and data visualizations methods.
- Libraries: NumPy, Pandas, Matplotlib, Seaborn, Plotly, Scikit-Learn.
- Implement ML Algorithms: K-Means Clustering, Logistic Regression Linear Regression, Random Forest, Decision Trees, NLP, Neural Networks & Support Vector Machines.
- Spark for Big Data Analysis & AWS set up

STATISTICS FOR DATA SCIENCE AND BUSINESS ANALYSIS (UDEMY CERTIFICATE LINK)

- Descriptive statistics, Distributions and Measures of central tendency, asymmetry, & variability
- Estimators & estimates and Confidence intervals
- Hypothesis testing
- Regression analysis

MASTER SQL FOR DATA SCIENCE (UDEMY CERTIFICATE LINK)

- Advanced querying techniques

Achievements

- Hero Power: under Win as a team initiative - Delivery Hero March 2022
- Connected Recognition: You Amaze 1 award for 'Innovate Everywhere' initiative - Cisco May 2021
- Connected Recognition: You Accelerate 2 award for 'Connect Everything' initiative - Cisco September 2020
- Connected Recognition: You Amaze 3 award for 1st Prize in Hackfest 2019 - Cisco December 2019
- Best Student Placement Coordinator 2014-2015, Training and Placement Cell - MACE 2015