Contact

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Top Skills

Python (Programming Language)
Python
Machine Learning

Languages

Punjabi (Native or Bilingual)
Hindi (Full Professional)
English (Full Professional)
French (Professional Working)

Certifications

Into to Machine Learning
Android App Development
Developing Secure Software
Blockchain: Beyond the Basics
Neural Networks and Deep Learning

Honors-Awards

NASA Space Apps Challenge 2017 : People's Choice Award (India Winner, Global Nominee)
We@DS Hackathon 2017
Featured Project at 'Hackster.io' and ' Arduino 101 - Invent Your Future!
Speaker at Virtual and Augmented Reality at Unity-Dev 2K16 VIT Vellore
Best Project in School Of Computer Science, Engineers' Day 2015

Patents

Identifying hotspots and coldspots in forecasted power consumption data

Mantej Gill

Senior R&D Engineer at Hewlett Packard Enterprise | Data Scientist | ML Engineer
Bengaluru, Karnataka, India

Summary

I am an experienced researcher and software developer with experience in Python, Data Science, Android Application Development, Augmented Reality, Virtual Reality & Internet of things.

I work as a senior R&D Engineer at Hewlett Packard Enterprise. My current role is of a Data Science researcher and an ML Engineer. I work in the HPE Infosight AIOps team, where I :
❒ Create machine learning models for various server-related use cases:
• Recommending customized Customer advisory alerts to HPE server customers
• Predicting maintenance time for Firmware updates on HPE Servers
• Workload scheduling using forecasted power supply data of a server
❒ Setup end-to-end workflow of ML life cycle using frameworks like MLFlow and Kubeflow
❒ Create secure data flow pipelines to collect data from servers residing in customer data-centres
❒ Create and maintain systems to efficiently store and process big data
❒ Develop scripts and software to clean, transform and analyze server data

I am currently working on exploring time-series data generated from a server(CPU, Power, Memory data) and actively researching the following themes :
• Forecasting of time series – For Reliable Predictions (Univariate, Multivariate, Ensembles)
• Time-series Data and Model compression - For Cost-Effective Storage
• Time-series Segmentation - For Interpretable Models

in an IT data center for workload scheduling

An improved forecasting algorithm for Power and CPU data of a server

A data-centric approach to Model compression

An analytical method to improve the life of an SSD drive in a server

Unsupervised Segmentation of a Univariate Time Series Dataset Using Motifs And Shapelets

I am contributing and working towards advanced research on these, with ambitious goals towards enhancing AIOPS for products and HPE solutions, patents and external journal publishing. Patent Filings:

• Identifying hotspots and coldspots in forecasted power consumption data in an IT data centre for workload scheduling

• Unsupervised segmentation of a Univariate Time series dataset using Motifs, Shapelets and Anomalies

• Compression of a univariate time series dataset using motifs

• An approach to predict Firmware and Software Components' Maintenance time window in HPE Servers

• An improved forecasting algorithm for Power and CPU data of a server

• A data-centric approach to Model compression

• An analytical method to improve the life of an SSD drive in a server

I'm passionate about my work and always eager to connect with like-minded people! You can reach out to me via email (mantej.gill@gmail.com).

Experience

Hewlett Packard Enterprise

4 years 8 months

Senior Machine Learning R&D Engineer

July 2018 - Present (4 years 8 months)

bangalore

◉ Patent Filings

• Identifying hotspots and coldspots in forecasted power consumption data in an IT data centre for workload scheduling

• Unsupervised segmentation of a Univariate Time series dataset using Motifs, Shapelets and Anomalies

• Compression of a univariate time series dataset using motifs

• An approach to predict Firmware and Software Components' Maintenance time window in HPE Servers

• An improved forecasting algorithm for Power and CPU data of a server

• A data-centric approach to Model compression

• An analytical method to improve the life of an SSD drive in a server

◉ Data Science use-cases

• Predicting maintenance time for Firmware updates on HPE Servers

• Workload scheduling using forecasted power supply data of a server

◉ Research themes

Working on exploring time-series data generated from a server (CPU, Power, Memory data) and actively researching the following themes :

• Forecasting of time series – For Reliable Predictions (Univariate, Multivariate, Ensembles)

• Time-series Data and Model compression - For Cost-Effective Storage

• Time-series Segmentation - For Interpretable Models

◉ Machine Learning Engineering

• Servicing ML models using BentoML and Yatai

• Setup end-to-end workflow of ML life cycle using frameworks like MLFlow and Kubeflow

• Adopting HPE Ezmeral for deploying and managing containerized Machine Learning applications

◉ Data Engineering

• Worked on setting up Data Lake and Data pipelines on HPE Harmony (AWS + Apache Spark-based platform)

Machine Learning Engineer

January 2019 - December 2020 (2 years)

Bengaluru, Karnataka, India

◉ Data Science use-cases

• Recommending customized Customer advisory alerts to HPE server customers

◉ Machine Learning Engineering

• Developed CI/CD/CT workflows for faster and more robust deployment

◉ Data Engineering

• Developed scripts to handle and process big data from Hadoop HDFS

• Developed a python based platform to execute and monitor Hive scripts from NIFi for refinement of incoming data in the data lake

• Developed NiFi flows for big data pipelines

• Developed scripts to anonymize sensitive customer big data

Research and Development System Engineer

July 2018 - January 2019 (7 months)
Bengaluru, Karnataka, India

- Automation Development

• Designed and Developed a tool that performs functional testing of HPE storage devices (Controller, Backplane and Expander).
• Designed and Developed a tool that automates HPE Smart Components building and release.
• Customized various flavors of Red Hat Enterprise, SUSE Linux Enterprise server and Windows ISO for auto deployment on HPE Bare Metal servers.

- Firmware Development

• Worked in a team to develop software that handles discovery, flashing and validation of HPE Storage Smart Components (drivers, firmware and applications).

Hewlett Packard Enterprise
Project Intern
January 2018 - May 2018 (5 months)
Bengaluru, Karnataka, India

- Data Analysis and Machine learning

• Developed an end-to-end POC project to gather, parse and predict various failures of server components based on HPE server logs
• Implemented multiple machine learning algorithms to predict the failure of storage (disk, controller) and performance (CPU) components
• Received an award for 2nd best internship project among 100 projects

Apple Developers Group (ADG-VIT)
Technical Group Lead
July 2015 - December 2017 (2 years 6 months)
Vellore Area, India

- AR/VR and Android App Development

• Utilized Unity3D to develop virtual reality mobile applications and WebGL components
  - Developed C# scripts to create animations and component interactions
• Utilized ARCore, Vuforia, Wikitude SDKs to develop Augmented reality mobile applications
• Worked in team to develop multiple android app for university students

- Mentorship and team leading

• Managed multiple projects and mentored a team of developers

• Tutored and conducted sessions on AR/VR mobile app development
• Lead the ADG team in a multiple hackathons
• Speaker in multiple events hosted by ADG : Uni-Dev 2017, App-a-thon 2016/2017

Deloitte India
Summer Intern
June 2016 - August 2016 (3 months)

◉ Data Analysis
• Utilized Tableau to :
‣Highlight telecom hotspots from customers' meta-data of call records
‣Perform Forensic analysis (highlight red flags) in company's internal audit datasets
• Developed VBA scripts to highlight potential red flags (fraudulent transactions) in real-time digital payment data

◉ Android App development
• Developed an android app for fast and foolproof auditing of telecom equipment in cell towers
• App features included digital signing, OCR for inventory, and GPS based verification

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Education

Massachusetts Institute of Technology
MicroMasters Program in Statistics and Data Science, Statistics and Data Science · (March 2021 - November 2022)

Vellore Institute of Technology
Bachelor’s Degree, Computer Engineering · (2014 - 2018)

Delhi Public School - R. K. Puram
CBSE Class 12 Certificate • Science with Computer Science, Computer Science · (2000 - 2014)