PARTH VIPUL SHAH

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EDUCATION

University of Southern California (USC) — **Los Angeles, CA**
Master of Science in Computer Science; GPA 3.65 — Jan 2022–Dec 2023

PES University — **Bangalore, India**
Bachelor of Technology in Computer Science and Engineering; GPA 3.62 (9.06/10.00) — Aug 2017–Jul 2021

EXPERIENCE

Commvault Systems — **Bangalore, India**
Associate Software Engineer — Jan 2021–Dec 2021

- Spearheaded development of the PostgreSQL data agent. Enabled protection of on-prem and cloud (AWS, Azure, GCP) PostgreSQL databases for **25+** customers by working on **90+** enhancements and defects. Co-ordinated on a wide array of features; multi-stream file system/dump based backups and restores, snap/volume based backups and restores, table level restores and block level backups. Highest score for a fresher in consecutive quarterly performance reviews.

Samsung R&D Institute — **Bangalore, India**
Research Intern — May 2020–Jul 2020

- Created a deep learning model with TensorFlow to improve user experience as part of the On Device AI team. Processed raw handset images to accurately determine ambient temperature and intelligently detect device overheating. Average RMSE of **3.79** (CNN) and **2.32** (LSTM) for single and multi image prediction respectively. Completed POC.

SSCU, Indian Institute of Science (IISc) — **Bangalore, India**
Project Intern — Jun 2019–May 2020

- Conceived 3 fast algorithms for computing general correlation functions. Used the Message Passing Interface standard in C. Achieved **super linear speedups** for the most efficient algorithm given a set of simulation parameters. Released package on a **120** node HPC cluster. Excelled in an academic research lab setting.

PROJECTS

- Prediction of the Peak, Effect of Intervention and Total Infected by the Coronavirus Disease in India: Forecasted using the SEIR compartmental model. **3 citations**. Published in the Disaster Medicine and Public Health Preparedness (Cambridge University Press) journal. doi.org/10.1017/dmp.2020.321.
- Converting Black-box Neural Networks into Interpretable Decision Trees, Explainable AI: Processed using layer-wise relevance propagation and perturbations. Methods were model and data agnostic.
- Naturalization of Text by the Insertion of Pauses and Filler Words: Used bigram frequency and an RNN. **55%** convincing.
- Database as a Service: Created using Docker, RabbitMQ, ZooKeeper. High availability and scalability. Tested on AWS. **100%** uptime and supported **500+** concurrent reads/writes.
- Ethereum Smart Contracts in Solidity: Deployed smart contracts onto the blockchain for an ERC-20 token and an escrow for a universal exchange. Test driven development.

LEADERSHIP AND INVOLVEMENT

University of Southern California

- **Graduate Student Programmer** – Creating data pipelines for report generation using Airflow. USC Graduate School's application is used to track master's and PhD candidate's program progress across USC. Additionally, designing a REST service for **10K+** PhD candidate's thesis to be automatically published to USC's Digital Library using .NET Core.

PES University

- **Teaching Assistant** – Big Data: Designed, developed and operated an online assignment submission portal handling submissions and auto evaluating from **300+** students. Secure, scalable and feature rich portal written in React and JavaScript.
- **Coding Division Head** – The Alcoding Club: Created and developed a portal with the MERN stack for the CSE department. Facilitated assignment submission, contest ranking and online judging. Beta tested by **800+** students. Mentored and led multiple software development projects. Conceptualized and organized an inter-collegiate competitive coding contest with **50+** teams.

SKILLS

- Technologies: Apache Airflow, React, Node, MongoDB, .NET, Django, Unix, Git, PostgreSQL, TensorFlow, Docker, AWS, GCP, DBT
- Languages: C/C++, Python, JavaScript, C#, HTML/CSS, SQL, Solidity