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 Tech. in Computer Science and Engineering; GPA 4.00 (9.06/10.00) — Aug 2017–Jul 2021

SKILLS

- Technologies: Airflow, React, Node, MongoDB, Neo4j, .NET, Django, Unix, Git, PostgreSQL, TensorFlow, Docker, AWS, GCP
- Languages: C/C++, Python, JavaScript, C#, HTML/CSS, SQL, Solidity

EXPERIENCE

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

- Spearheaded development of the PostgreSQL data agent - multi-stream file system/dump-based backups and restores.
- Enabled protection of on-prem and cloud (AWS, Azure, GCP) PostgreSQL databases for **25+** environments by working on **90+** enhancements and defects.

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

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

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

- Conceived 3 parallel algorithms for computing correlation functions using the MPI standard in C - achieved **super linear speedups.**
- Released package on a **120** node HPC cluster, academic paper is under review.

PROJECTS

- Nutritional KG: A recommendation system that uses a knowledge graph with **10K+** entities to help minutely alter your diet.
- 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 with the Cambridge University Press. 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. Model and data agnostic methods.
- 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. Test driven development.

LEADERSHIP AND INVOLVEMENT

University of Southern California

- **Graduate Student Programmer** – Creating data pipelines for report generation using Airflow. Reports used to track master's and PhD candidate's program progress. 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 an online submission portal for auto evaluating assignments of **300+** students. Secure, scalable and feature rich portal in React.
- **Coding Division Head** – The Alcoding Club: Mentored multiple software development projects. Organized an inter-collegiate competitive coding contest with **50+** teams. Created a portal with the MERN stack that facilitated contest ranking and online judging. Beta tested by **800+** students.