Param Bhavsar

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Education

Pune Institute of Computer Technology, India July 2015 - May 2019

Bachelors of Engineering in Computer Engineering with First Class Distinction

CGPA: 9.21/10

Relevant Courses: *Data Structures & Algorithms, Theory of Computation, Discrete Mathematics, Machine Learning, Artificial Intelligence & Robotics, Data Analytics, System Program & Operating System, Computer Networks, Cloud Computing*

Publications

Forecasting GDP per capita of OECD countries using machine learning and deep learning models

Conference Paper - Accepted, IRTM 2022

Vedant Bhardwaj, **Param Bhavsar**, Debasis Patnaik

Audit and Compliance in Service Management using Blockchain

Conference Paper, IEEE INDICON 2019

Chinmay Ingle, Ashwin Samudre, **Param Bhavsar**, P. S. Vidap

Experience

HSBC July 2019 – Present

Software Engineer - Commercial Banking *Pune, India*

- Design and build the Push Notification Service for the payments using Spring Boot, Kafka, Google Cloud Platform. The service is consumed by commercial clients through the APIs and supports more than ten counties in the current phase. The project results in a 70% reduction in the client's high-value payment tracing calls and $4 million per year in server and maintenance costs.
- Lead and implemented the AI-based language translation engine using a bidirectional encoder and consumed by commercial banking portals to support 20+ languages.
- Build the Payment Authorization Service for the single and bulk payments using Spring Boot, MuleSoft, and ReactJS, where the client can authorize payments at their end either through the HSBC portal or exposed API service. The project results in an 80% reduction in manual validation by the HSBC front office and supports more than 2 million customers with a 10% yearly growth.

Google Summer of Code 2019 with TensorFlow May 2019 – August 2019

Student Developer *Remote*

- Design and build the machine learning library in Swift programming language called swiftML to support type safety in AI application development.
- Implemented the linear, tree-based, clustering, ensemble and naive-bayes machine learning algorithms.
- Documented and wrote detailed tutorials on the use of the library.

BMC Software Inc. October 2018 – May 2019

Project Intern *Pune, India*

- Develop a Blockchain-based solution for transparent and secured auditing and compliance management in Service Management processes using Hyperledger Fabric framework.
- Architected and created the private Blockchain with dynamic consensus mechanism and developed the smart contract in the Go programing language.

Projects

Forecasting GDP per capita of OECD countries

- The project analyses the performance of different machine learning models and a deep learning model in forecasting annual Gross Domestic Product (GDP) per capita (PPP) data of 33 OECD countries using past years' variables covering various growth, development, health, energy, finance, and social indicators.

- The custom Deep Neural Network has shown the best result amongst all the considered models on both the training and testing data with a coefficient of determination of 0.99809.

Autonomous Ephemeris Predictions By Navigation Receivers

- Develop an intelligent forecasting model that is computationally lightweight, fast, and highly accurate in predicting the satellite position for the next five days.
- Ranked second among the 40 teams all over India in the Smart India Hackathon 2019 at the Indian Space Research Organization.

Real-Time Video To Audio Converting AI Assistant

- Developed an artificial intelligence-enabled AI assistant in the form of an android application for visually impaired people to visualize the surrounding environment in a medium of real-time audio using a combination of CNN and LSTM models.
- Trained on the Flickr30k dataset and model by utilizing TensorFlow, Text To Speech API, and Dialogflow.

Artistic Image Generation Using Generative Adversarial Networks (GANs)

- Construct the hybrid model of Deep Convolutional GAN and Wasserstein GAN to generate domain-specific high feature paintings of nature.
- As a result, the hybrid model can understand complex features and generate painting to fool a discriminator to differentiate between original and fake artwork.

Technical Skills

- **Programming Languages:** Java, Python, C, C++, Swift, Go
- **Web Development:** ReactJS, JavaScript, PHP, CSS, HTML
- **Databases:** MySQL, PostgreSQL, MongoDB, Firebase
- **Tools & Frameworkss:** Google Cloud Platform, Android, Spring Boot, MuleSoft, Docker, Kubernetes, Git
- **Machine Learning Libraries:** TensorFlow, PyTorch, Scikit-Learn, Keras, Transformers
- **Operating System:** Linux (Unix), Windows, macOS

Co-curricular And Extra-curricular Activities

- Served as a **Conference paper reviewer** at International Conference On Interdisciplinary Research in Technology & Management IRTM 2022.
- **Volunteered** at **ICML 2020**, worked with the organization team to help schedule the conference presentation, and provided support to the presenters during the paper and poster presentation.
- Served as a **Mentor** at **TensorFlow** organization during **Google-CodeIn 2019**. Guided, tutored, and reviewed the machine learning projects of more than 30 pre-university students.
- Ranked **4th** on Kaggle Leaderboard at **Google India Hackathon 2018** amongst 32 shortlisted teams to compete onsite for delivering a solution to the computer vision problems of Waste Segregation.
- Ranked **7th** in **Smart India Hackathon 2018** organized by Department of empowerment of persons with disability, ministry of social justice and empowerment.