VIPUL SHARMA

+91-7855872184
vipulroxx.github.io
vipulsharma936@gmail.com
Jamshedpur, India
in vipul-vs-sharma

ACADEMIC QUALIFICATIONS

Year	Degree	Institute	Performance	
2021	B.Tech - Computer Science Engineering	Institute of Technical Education & Research, Bhubaneswar	7.77/10	
2016	Class XII (ISC)	Loyola School, Jamshedpur	72%	
2014	Class X (ICSE)	Loyola School, Jamshedpur	84%	

ACHIEVEMENTS

- Finalist in Google Code-in, 2014 from Sahana Software Foundation among 24 other organizations in the world
- Selected as National Student of the Week from Camp - K12
- Secured 2nd position in Provoke, a hacking inter-school competition & 3rd position in Quantum, a web-design inter-school competition

WORK EXPERIENCE

PRICEWATERHOUSECOOPERS INDIA — **Associate SWE 2, Internal Firm Services** — *Sept 2021 - Present*

AI Factory: Generative AI Initiative

- Created **Proof of concept of end to end application development and deployment from given user story using ChatGPT from OpenAI**.
  - **Created** a sequence of classes using **Structural Design Pattern.**
  - Base classes in sequence include: Deployment to **Databricks configuration** class, **OpenAI Chat-GPT Large-Language-Model,** class to **engineer Prompt Templates**. **OpenAI API Res ponse class** to generate response.
  - Only **1 single object is created** from the above Response class & used for all the **service types including back-end, front-end, unit test, docker & pipeline with added code comments. Configuration** for used technolgy is based on user preferences.
  - From the above OpenAI model **Code generation, Code optimisation & Unit test is generated for both back-end API and front-end API** used to create the **Requirement packages file** for both back-end & front-end code.
  - Finally, using **Chat-GPT**, a **Docker-file** was created for the end to end application & which was then used to make an **Azure pipeline** for deployment.
- **Created a usecase** for **generative AI as a enhancer for Project Planning Phase of Engagement Risk, Resolve, Receive, Plan, Create and Deliver Lifecycle**.
- **Implemented SKLearn & LLMś in reusable components as MFEś** to be used in throughout the PwC Digital department.

Concourse Product: User Story Coach

- **Optimization of recommendation hierarchy and capability importing API's** for given user stories from **18 to 12 seconds & 19 to 12 seconds respectively** using **Python, Flask & MongoAlchemy** with proper security including **JWT-Authentication** following best practices.
- **Implemented the whole unit test case module using Pytest** having least dependencies using concepts like **fixtures, test-client, scopes, conftest, config files & class testing**. Got the **coverage** results from **0 to 80 %.**
- **Fixed codesmells with Sonarqube** for successfull deployment **passing the Veracode scans.**
- **Upgraded Python from 3.8 to 3.9** which also required me to **change built in system packages from JWT due to version conflicts**.
- **Fixed Azure pipeline issue of coverage synchronization for backend Sonarqube** and **fixed other Azure pipeline issues.**

Insights Platform: Usage Tracker

- Leveraged **Builder Design Pattern** to write a package in **Python** that gets user information from **Reusable Accessible Components** containers on servers
- Connected the package to **MySQL** server with proper implementation of **JDBC** that retains user's information per session during data extraction
- Used **PySpark** to create data-frame from the user class object & converted it to **Pandas** data-frame for final upload to the server

Microsoft PowerApps: ProDev Bootcamp

- Designed & built **PowerApps** prototype application called **Device Ordering App** on **low code** environment which compares & selects laptops from store
- Inculcated **Dataverse & Power Component Framework** to design **Dynamic Text Input** fragment that stores order from the user & submits it to the supplier
- Built **Supplier Portal** using **Power Portals** that checks the users order & approves it based on the desired conditions applied from **Flow Automations**

PRICEWATERHOUSECOOPERS BADGES

- **P&T** Full Stack Program Badge
- **P&T** AWS Cloud Program Badge
- **P&T** Microsoft ProDev Bootcamp
- **P&T** Human Centered Design
- **P&T** Digital Acumen

INSTRUMENTATION & AUTOMATION DIVISION, TATA STEEL JAMSHEDPUR — **Research Internship** — *May 2018 - June 2018*

Pseudo defect reduction in Surface Inspection System at CRM Bara — ***Project Supervisor: Mr. Ashish Tiwari, Principal Technologist***

- Sanitized **SQUINS** dataset with proper defect listing & classified metallic defects using **two-fold procedure** applied on the surface inspection system
- Implemented a **Convolutional Auto Encoder** to detect **27 types** of defects that would be further used to enhance the automation model

RELEVANT PROJECTS

SAGE: Vocabulary Improving Game

- Developed **SAGE**, a multiplayer game, using **Angular, TypeScript, Firebase & Material Design**, for teachers & students wanting to improve vocabulary
- Designed for a **classroom setting**, students try to guess the meaning of a word through hints which is controlled by the teacher authenticated via **OAuth 2.0**

Point of Sales: Sales Transaction Application

- Developed API endpoints using **Angular, Node & MariaDB** having login utility, editing & selling a transaction for a specific user
- Login utility always **(re)loaded** on display screen showing username & password for a particular user & the final receipt could be **emailed** to the user

Retriever: Retrieving Information from Document

- Pre-processed the document data by **tokenization, stop word removal & stemming** in **Python** thus calculating the **term & document frequency**
- Frequencies were used to take out the **term score** & information was then extracted by taking out the **cosine similarity**

Samadhaan: Concern Logging Interface

- Build a concern logging application using **PHP, HTML, CSS & JS** where concerns can be logged by a user & an administrator can attend those concerns
- Final system was used in **Ambuja Cement Colony** at Sindri, Jharkhand who uses this application internally to log rental & house concerns

Axxelerate: Python based Search Engine

- Created a **Python** based search engine using **Scrapy** for crawling webpages & stores the data in **MariaDB** which indexed a **Binary Tree** with **Outer Joins**
- Implemented page ordering using **PageRank** algorithm & **Flask** for the server with **Angular & Material Design** approach for front end

Lexical Anazlyser: Finite State Machine Implementation

- Used **finite state machine** having a set of states, a set of **transitions**, & a string of **input data**
- Lexical analyzer was then implemented in **C** to recognize a list of **identifiers & non-negative integers**

RESEARCH PUBLICATION

- Journal: "Breast cancer data classification using deep neural network", IJISDC, Volume 3, Number 2, 2021, Article 115169

CERTIFICATIONS

- **AWS**: Certified Solutions Architect
- **AWS**: Certified Cloud Practitioner
- **AWS**: APN Partner Cloud Economics
- **Coursera**: Modern Applications with Python on AWS
- **AWS**: APN Partner Business Professional
- **Coursera**: Object Oriented Design Course

TECHNICAL SKILLS

Programming Languages	Python, C, Java, ES6, PHP, HTML, SCSS, SQL, NoSQL, R, YAML
Tools & Frameworks	Flask, SpringBoot, Single-Spa, Webpack, Spark, Node, React, Vue, Angular, Next, Keras, NumPy, Pandas, Pytest, JUnit
Software & Services	GitHub, Azure DevOps, Jenkins, TravisCI, CircleCI, Docker, Kubernetes, AWS PowerApps, PowerBI, Alteryx

POSITIONS OF RESPONSIBILITY

- Teaching Assistant — *Digital Media Computation using Python, UMM, USA* — *May 2017 - July 2017*
- Research Assistant — *Power Consumption Controlled Analysis, UMM, USA* — *Nov 2017 - Mar 2018*

RELEVANT COURSEWORK

Software Design Patterns	Foundations of Computer Science	Probability & Statistics	Introduction to Databases
Object Oriented Design	Data Structures & Algorithms	Introduction to Machine Learning	Introduction to Operating Systems
Software Design & Development	Numerical Methods	Neural Networks & Deep Learning	Introduction to Compiler Design

FUN TAGS

Basketball, Football, CSGO, FIFA, Michael Jordan, Kobe Bryant, Goku, Vegeta, Burgers, Biryani, Shakes, Praying, Helping, Dancing, Gym, Nature & Singing