

Aagam Sheth

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Applying design and engineering principles to solve complex problems through sound analytical and creative skills

TECHNICAL SKILLS

Languages: Python, C#/VB .Net, JavaScript, HTML/CSS

Frameworks: Django, Next.js, Django Rest Framework, .Net Framework

Python Libraries: Tensorflow/Keras, Sci-Kit Learn, Pandas, NumPy, OpenCV, Matplotlib

Frontend Libraries: React.js, JQuery, Tailwind CSS, Shadcn, Datatables.js, Chart.js

Databases: PostgreSQL, MS SQL Server, MongoDB, Redis

Web Servers: Apache httpd2, Nginx, Amazon Web Services (Elastic Services, RDS, SageMaker & LightSail)

Other Skills: RabbitMQ, Git-SCM, Gitea, Docker, CRON Jobs, Celery Tasks, Figma, Insomnia/Postman, Latex, JupyterLab, PowerBI, Prometheus, Graphana

Operating Systems: Ubuntu, Red Hat Enterprise Linux, Windows and Windows Server

EXPERIENCE

Tirth Infotech

5 Years & 8 Months

Ahmedabad, Gujarat, India

Part-time, Project based contract

Archives Portal | **Gujarat State Archives, Food and Drugs Control Administration** January 2023 - Present

- Deployed the site on **Gujarat State Data Center (GSDC)** on shared and dedicated servers
- Utilized 3 servers, 1 for web application and other for PostgreSQL and MongoDB over DMZ architecture
- Successfully passed 2 security audits for hosting the site on GSDC by a **CERT-In Empanelled** company
- Developed a REST API using Django and DRF to store and retrieve archival documents
- Integrated a React.js frontend for efficient and smooth interactive client elements
- Scripted complex SQL queries, procedures, views, functions and dynamic data models for querying PostgreSQL
- Initialized Gujarati dictionary for **Full-Text** search capabilities and **TsVector Lexemes selections**
- Site can cater to any sort of metadata and dynamically create admin pages and views
- Developed an API endpoint for supporting **Ranged-Requests RFC:7233** specification for documents requests
- Optimized performance of site by caching both client and server functions with a hash table
- Implemented segregated search panel that is dynamically generated from data for complex search conditions

Document Retrieval | **Gujarat Secondary and Higher Secondary Education Board (GSHSEB)** May 2022

- Deployed a site for GSHSEB to retrieve Karobari documents based on static metadata uploaded
- Implemented a traditional AJAX search panel to provide search suggestions
- Based site on SSG model for simplicity by carefully analyzing client requirements
- Developed with Django and PostgreSQL deployed on a single instance of AWS LightSail

Objection Raising System | **State Recruitment Boards** March 2022 - Present

- Developed a Objection Raising and Management System for multiple State Recruitment Boards
- Deployed on an AWS instance with MS SQL Server and Django backend with Apache Httpd and ModWSGI
- Optimized the site to allow **5000 rpm** by analyzing the drawbacks of a cryptographic hash function
- Replaced cryptographic hash function with a custom **XOR operation reducing 70% CPU usage** on all 8 cores
- Converted queries to **Transact-SQL Stored Procedures** optimizing database performance
- Configured Httpd **Multi-Processing Module Prefork** running ModWSGI on 10 processes and 100 threads each
- Fixed Django code to run with thread safety for handling Apache Httpd MPM Prefork processes and threads

Stock Management System | **GSHSEB** December 2021 - August 2022

- Developed a custom Stock Management and Tracking System for GSHSEB
- Created over 10 different reports specifically customized for the client
- Implemented forms for various transactions such as purchase and sales orders, internal and external transports, etc
- Provided a admin site for data management, user management and uploading data from spread sheets
- Used principles of RDBMS and ACID properties for consistency of accounting modules
- Developed site using Django and PostgreSQL deployed on AWS LightSail instance with Apache Httpd

- Fixed bugs and provided support for VB.Net and C# based desktop applications
- Customized over **50 Winforms Crystal Report** for a client to suit their needs
- Attended client sites to provide technical support and deploy applications on premise
- Adapted quickly to the dynamic work environment, demonstrating flexibility in handling new responsibilities
- Enhanced understanding of the industry by actively participating in the sessions
- Explored ways of identifying and solving challenges by applying critical thinking and problem-solving skills
- Improved communication skills by regularly interfacing with supervisors and discuss potential challenges

OPEN SOURCE PROJECTS

django-db-file-storage

fork: [victor-o-silva/db_file_storage](#)

- A custom file storage system for Django to save files in database instead of file system
- Fixed source code for migration to Django 4.x
- Solved **NameException** on Windows issue by identifying the correct path separator logic
- **Berlin Institute of Health** mentioned my fork for migrating upstream dependency to Django 4.x
- Created a Pull-Request to the upstream repository for merging the patch

django-dynamic-models

repo: [OpenSource-Collection/django-dynamic-models](#)

- Django models can be created dynamically at run-time, rather than being defined in a Python source
- Successfully identified and resolved bugs, improving the stability and reliability of Django Dynamic Models
- Based on [Dynamic models](#) wiki and [charettes/django-mutant](#) package
- Contributed to project documentation, making it more accessible for new contributors and users
- Accepted 3 Pull-Requests and closed 5 issues to ensure continued usefulness for the community

react-headless-token-auth

repo: [OpenSource-Collection/react-headless-token-auth](#)

- A headless, secure and efficient method for handling user authentication in React applications
- Improved the overall DX by introducing interceptors to axios, hooks and contexts, reducing friction for developers
- Conducted thorough code reviews and enhancements to the codebase and merged a few Pull-Requests
- Maintained code quality and adhered to best react practices
- Fixed **TokenExpiration** with setTimeout and Expiration context

EDUCATION

New L. J. Institute of Engineering and Technology, GTU

CGPA: 9.74

Bachelor of Computer Science and Engineering, specializing in AI and ML

Aug 2021 – Present

Government Polytechnic Ahmedabad, GTU

CGPA: 9.8

High School Diploma in Information Technology

Sep 2018 – June 2021

Ahmedabad International School

SSC: $P_{95.6}$

International Baccalaureate (IB - PYP) [up-to 7th Grade] and GSEB

Mar 2018

PROJECTS

DevOverflow | *Next.js, Zod, MongoDB, Tailwind CSS, OpenAI API, Nginx*

January 2024 - Present

- StackOverflow enhancement clone for mastering Next.js
- Reduced redundant fetch and Axios code with Server Actions and improved response times
- Developed a recommendation system for posts based on user activity and site usage
- Utilized OpenAI API for generating relevant answers to user asked questions

Evently | *Next.js, Clerk, Stripe*

December 2023 - January 2024

- Evently is an event publishing and ticket booking system
- Configured social authentication via Clerk with OAuth 2.0 standard specification
- Integrated a payment gateway for purchasing tickets and booking shows

Blur | *Python (Rich - library for rich CLI text), FIPS-AES*

February 2023

- Blur is a command line tool to generate deterministic secrets with a colorful interface
- Compiled tool with PyInstaller for distribution on Linux

Gitea Customization | *Gitea API, Next.js & React.js, Nginx, PostgreSQL* January 2023 - November 2023

- Deployed Gitea on AWS EC2 instance with PostgreSQL RDS and ECS for scalability
- Developed custom Next.js(React.js) app to display statistics using Gitea API
- Scripted CRON jobs to take snapshot of Gitea repository and push to home server

Git Stash | *Perl, Apache Httpd, CGI Script* October 2022

- Customized styling GitWeb using Perl serving a HTTP request with Apache Httpd
- Created a templating CGI script in Perl to ease HTML conversion

Chorus | *Figma, React Native* May 2022 [WIP]

- An assistive app that aids visually and hearing impaired users with quotidian tasks
- Design is powered by Haptics & Gesture
- Helps restoring partial sight with Artificial Intelligence to help complete daily tasks

SPAPAS | *Django, Sci-Kit Learn & Keras, JupyterLab, Chart.js, MySQL* January 2021 - March 2021

- Student Prediction And Performance Analysis System
- Designed a complex database to store, analyze and visualize student marks data across grades and division
- Developed a linear regression model using tensorflow to predict student performance
- Implemented a logistic regression model to predict students understanding of granular topics in the subjects

CERTIFICATES

Coursera

Python Specialization Courses

- Programming for Everybody (Getting Started with Python) University of Michigan
- Python Data Structures University of Michigan
- Introduction to Data Science in Python University of Michigan

Business Literature

- Writing and Editing: Word Choice and Word Order Michigan Law School

IBM SkillsBuild

Data Analysis and Machine Learning

- Data Science 101 DS0101EN
- Data Science Tools DS0105EN
- Data Visualization with Python DV0101EN
- Machine Learning with Python ML0101EN
- Python 101 for Data Science PY0101EN

Trinity College London

Literature and Communication

- GESE Grade 2 - CEFR level A1 Credential ID: 1-39204561:1-39249826

LinkedIn Learning

Data Science and Analysis

- Advanced SQL for Data Scientists Credential: AZ0EyrYIGFCVghGUwqsQGuu8IrQz
- SQL for Data Analysis Credential: AZ5DngZzPekn0BVuO7xbTHRuBXAC
- Designing Highly Scalable and Highly Available SQL Databases Credential ID: AaDBitnvw1XrVckoBhFv6VrSH9cC
- Level Up: Advanced Python Credential ID: AYm9yb5dYA4bD6nKZxkbCnhQ0XqY
- Machine Learning with Python: Foundations Credential ID: ATsCIWRw7LXXrwYZRIghyEy9wHDx
- Python Data Analysis Accredited with National Association of State Boards of Accountancy (CPE Credit: 4.8)
- Data Strategy Accredited with National Association of State Boards of Accountancy (CPE Credit: 1.6) & Project Management Institute, Inc