ARPAN BHOWMICK

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EDUCATION

Jalpaiguri Government Engineering College   Jalpaiguri, West Bengal, India
Bachelor of Technology in Electronics & Communication Engineering, YGPA : 7.89/10.0   Jun. 2019 – July 2023
Sri Chaitanya Junior Kalasala   Hyderabad, Telengana, India
Higher Secondary Education, YGPA : 89.8/100.0   April. 2017 – May 2019

SKILLS SUMMARY

Languages: C++, JavaScript, SQL, Java, Python, PowerShell

Frameworks: ReactJS, NodeJS, ExpressJS, REST API, WebSockets, MongoDB, JWT Authentication, Pandas

Database: MongoDB , PostgreSQL

Tech Skills: Data Structures, Algorithms, Competitive Programming, Object Oriented Programming Concepts

Tools: Git, GitHub, Docker, Postman

Platforms: Microsoft Azure, Microsoft Intune

Other: Problem Solving, Teamwork, Creativity, Time Management

EXPERIENCE

Software Developer   October 2023 – Present
Tata Consultancy Services   Kolkata
- Built a **high-performance automation tool** using **NodeJS** that seamlessly integrated with the **Microsoft Graph API**, automating device data retrieval for a **large-scale user base of 3,000+ users**. The manual process previously took **6,000–9,000 minutes**, whereas the tool reduced it to just **1-2 minutes**, achieving a **99.9% improvement in efficiency**. This solution eliminated repetitive tasks, ensured **scalable data retrieval**, and significantly enhanced **team efficiency and productivity**.
- Developed an **automation tool** using **Python** and the **Pandas** library, reducing task execution time from **200–270 minutes** to **less than 10 seconds** for processing 100 data points. This resulted in a **99.9% efficiency boost**, significantly improving workflow automation and team productivity.

PROJECTS

School Management Portal | *React.js, Node.js, Express, MongoDB, JWT Authentication* [View Project]
- Developed a **full-stack School Management Portal** with **role-based authentication (RBAC)** using **JWT tokens**, ensuring secure access for **students** and **administrators**.
- **Frontend (React.js):** Built an interactive UI with separate portals for students and admin:
    * **Student Portal:** View **attendance**, **homework**, **timetable**, and other academic details.
    * **Admin Portal:** Manage **student lists** and assign homework dynamically.
- **Backend (Node.js & Express):** Implemented robust **role-based access control (RBAC)** for secure authentication and authorization.
- **Real-time Communication:** Integrated **WebSockets** for a **real-time chat feature**, enabling seamless interaction between students and admins.
- **Admin Functionality:** Enabled homework assignment for specific students, ensuring personalized learning experiences.
- **Database (MongoDB):** Structured and optimized data storage for student records, attendance, and assignments.
- **Hosting & Deployment:** Deployed the portal for **scalability** and **global accessibility**.

TicketRibe | *React.js, Node.js, Express.js, PostgreSQL, Twilio, OTP Authentication* [Frontend Repository]   [Backend Repository]
- Developing a scalable event booking platform with secure, passwordless login and ticket reservation capabilities.
- Integrated **OTP-based authentication** using Twilio SMS API to enable secure and seamless user login without passwords.
- **Frontend (React.js):** Built a responsive and interactive UI featuring sections for Movies, Trains, Concerts, and Buses.
- **Backend (Node.js & Express.js):** Built secure REST APIs with custom OTP verification, authentication middleware, and token lifecycle management.
- **Database (PostgreSQL):** Designed a relational schema to handle user data, OTP lifecycle, ticket records, and event metadata.
- Designed architecture for upcoming modules like dynamic train/bus scheduling with real-time updates and transaction logging.

ACHIEVEMENTS

- LeetCode: **3.5** rating, solved over **1000+** problems over the consistent period of time. (Profile: leetcode.com/arpan$_b$8907)
- GeeksforGeeks: Solved over **600+** problems consistently. (Profile: auth.geeksforgeeks.org/user/arpanbhowmick1312/profile)
- Secured **Global Rank 169** in TCS CodeVita 2022 Round 2 , out of more than 250000 Participants. [Certificate]
- Ranked in the **top 7%** in multiple LeetCode Weekly and Biweekly Contests, with a peak rank of **1316** out of 17,000+ participants.