TARUN RANA

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https://tarun-rana-portfolio.vercel.app/

EDUCATION

Master's in Science, *Computer Science*   *Aug 2021 – May 2023*
The University of Texas at Arlington, US   *GPA: 3.75*
Bachelor's in Engineering, *Computer Engineering*   *Aug 2014 – May 2018*
The University of Mumbai, IN   *GPA: 3.50*

SKILLS

Programming: JavaScript, TypeScript, Python, R, PHP, C++, and C#.
Frameworks, and tools: React.js, Nextjs, Prisma, Flask (Jinja), Node.js (Express), .NET Core, Mongoose, Laravel, Git, GitHub, AWS, Azure, Vercel, Netlify, Thunder Client, Postman, Bash, NumPy, Pandas, TensorFlow, Google Colab, and Azure data studio.
Web and Database: Bootstrap, HTML5, CSS3, SASS, Styled Components, Tailwind CSS, MongoDB, PhpMyAdmin, XAMPP, Postgres SQL, Microsoft SQL server, Flexbox, Grid, UI development, UI tuning, Framer Motion.

EXPERIENCE

Full Stack Developer, UT Arlington   *Sep 2023 – present*
Project: UTA Neighborhood *(Typescript, React.js, Styled Components, React-query, React-router, Node.js (express.js), Web Sockets, AWS (EC2, S3, Elastic IP, IAM roles), Nginx, Git, MongoDB, Mongoose, Bash, Postman)*
- Challenged to resolve significant real-world challenges faced within university campuses. A lot of household commodities were dumped every semester during the move-out date. And new students must either buy a new one or get it from a far place. This issue was addressed and resolved.
- Develop a web app where students and faculty members can log in using their university email ID to leverage this app and buy or sell items by connecting to respective people.
- Front end side of the application was developed in TypeScript and React.js. Fetching was done using React-query. Routing with react-router. Many other third-party libraries were used like react-icons, socket.io, Axios, etc.
- A real-time chat application was implemented using socket.io.
- RESTful API was developed using Typescript and Node.js (express.js), web sockets, and many other third-party libraries. Backend including secure authentication and authorization system with help of JWT, bcrypt package. Images were handled using multer, sharp. And tested with the help of Postman.
- Data was stored in the NoSQL database MongoDB using Mongoose as ODM where reference and embedded relationships were used.
- Github was used as version control and the app was deployed on AWS EC2 (Ubuntu 20.04), and images were stored in AWS S3. Plus nginx was used as a reverse proxy.
- Web app is successfully deployed and working and helping many students.

Full Stack Developer, Mindise Pvt Ltd   *Apr 2020 – May 2021*
Notable Projects: Kings United & Aditi Tracking *(HTML5, SASS, JavaScript, Node.js, MongoDB, Git)*
- Collaborated with clients to gather requirements for the product with a team of six and created wireframes and prototypes, which resulted in refining user interface behaviors, and decreased front-end development time by 35%.
- Developed and executed an intuitive and user-friendly interface, utilizing a technology stack that included React, React-Router, and Redux Toolkit (efficient global state management).
- Implemented Unit, Integrated, and end-to-end testing with Jest and Cypress, for the developed components which led to a decrease in bug detection by 40% and an improvement in code quality.
- Designed a secure authentication system utilizing Node.js(express) API, cookies, and JWT package, reducing login errors by 60%.
- Constructed a scalable backend architecture consuming PostgreSQL and Prisma as ORM, implementing caching, code optimization, asynchronous processing, and fine-tuning database queries that boosted server response time by 75%, enabling the seamless handling of up to 1000 requests per second.
- Significantly contributed to developing and documenting Restful APIs by leveraging Postman for automated testing and managed environment variables for both the development and production phases.

PROJECTS

E-Commerce *(C#, ASP.NET Core, HTML, CSS, JavaScript, Microsoft SQL Server)*
- Created a dynamic e-commerce web app in C# and ASP.NET with user registration, shopping cart, and real-time order tracking, optimizing code structure using Factory Method and Repository Pattern.
- Ensured optimal functionality and user experience through rigorous testing procedures, including NUnit unit testing and Selenium end-to-end testing.
- Utilized C# and .NET technologies to create a scalable and maintainable codebase, enhancing application performance and enabling future development potential.

QueryMeter *(Azure Cloud services, SQL, Database, Caching)*
- Developed a comprehensive web application using Flask to efficiently handle and fetch data from various datasets, resulting in a 50% reduction in data processing time.
- Deployed the full-stack web app on Microsoft Azure utilizing Azure SQL database services, improving the application's scalability and reliability by 40%.
- Optimized the web app's query fetching using Redis caching optimization, making it highly effective in managing diverse datasets and improving efficiency by 68%.

Multi-layer Neural Network *(Python, NumPy, TensorFlow, Google Colab)*
- Engineered a multi-layer neural network with TensorFlow and NumPy libraries in Python for image classification from the MNIST dataset, utilizing optimized input activation and loss functions to achieve 98.73% accuracy.
- Integrated Convolutional Neural Networks and Recurrent Neural Networks in image classification tasks; amplified accuracy by 5% on average.