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* Around 4 years of experience in building web applications with CI/CD pipelines and a deep interest in penetration testing.
* Experienced in developing single-page applications using MERN (MongoDB, Express, React and Node) Stack
* Experienced in building cross-browser compatibility applications using HTML5 and CSS3
* Hands on experience on Redux, Flux, Webpack Javascript based applications
* Expertise using React Components, Reducers, and Actions to implement MVC and Redux architecture, having experience with middleware
* Pleasant experience working with Bootstrap and CSS3 media queries to support Responsive Web Design (RWD)
* Extensively used package management tools such as NPM, Yarn and Bower to manage the modules and install useful tools
* Experienced with project version control tools such as Git and SVN
* Experience working with various methodologies such as Agile, and TDD
* Experience developing web applications on top of platforms using NodeJS, Express framework
* Experienced in SQL Server, MySQL and MongoDB, Firebase
* Good experience on unit testing frameworks such as Mocha, Enzyme and Jest
* Highly motivated team player with strong communication, analytical, documentation and organizational skills
* Proficient in Next.js with knowledge of SSR, dynamic routes, api and auth middlewares

Professional Experience:

Software Engineer | i2ctech.com July 2021 – Present

The Campus Police project is a security focused project that allows the police department in a campus to make use of modern software in their day-to-day workload. Users can log in with their credentials and then add logs of their activities, notes during their shift, open cases, update status, add more information, etc. They are also able to export logs data, shift data and even case data to generate report in order to submit it to the state police. The chief of the department can also add new members, implement their login credential, keep track of cases, and logs, and shift. They can also keep track of recent logins, case edits, updates, etc. The project is completely NIBRS (National Incidenct-Based Reporting System) compliant. This is built with the MVC architecture where React serves the front-end and ASP.NET serves the backend.

* Collaborated on a full stack application that can be used by Campus Police to keep track of cases, logs, and notes. This app is also NIBRS compliance thus allowing the department to generate reports that are NIBRS compliance which in turn makes the department eligible for federal funding.
* Extensively worked with React and Bootstrap for the front-end with a .NET and SQLServer backend
* Used Redux to manage global states and axios to fetch data from the .NET API
* Built sophisticated and easy-to-use user interfaces for content pages in the SPA using CSS3 layouts along with style mark-up presentations in JavaScript
* Utilized NPM to manage various versions of code and code dependencies at the same time of upgrading the application conveniently as the source code is altered
* Coded new features like Excel Export, Person Search, Dashboard, etc. with modern UI and reusable components that can be used for further projects
* Followed TDD approach with react-testing-library and Jest for front-end
* Ensured the stability and accessibility of the application through thoroughly testing it with selfcreated test cases using Jest and Enzyme
* Involved in day-to-day stand-up meeting, periodic sprint reports, as well as other Agile/Scrum work activities
* Carefully documented my entire work making it easier for future developers to get on-board with the project quickly

Front End Engineer | Tech For Good Inc. Dec 2019 – June 2021

TFG Inc. is a non-profit organization that aims to “make the world a better place – one line of code at a time.” With more than 12 programs, and services in four different countries, TFG Inc. has helped over 1400 people along the way. Sponsored by companies like Microsoft, Atlassian, and Salesforce, etc. With projects like mission uplink where they provide high-speed internet connectivity to the areas of developing countries that need them the most, and programming classes where they teach young members of any underrepresented community at no cost. This project allowed for much better organization and implementation of their website compared to the previous one. It also empowered the organization’s ability to showcase their mission and projects in a much better way along with a clean and quick way of accepting donations.

* Collaborated in a team of engineers to revamp the non-profit organization’s site to use modern web app stack.
* Used Figma for prototyping and design
* Worked closely with UX/UI designer to build the front-end
* Developed a new react-based website to depict the organization’s mission, projects, etc.
* Followed Agile principles with a bi-weekly sprint
* Leveraged the power of Context API to manage states throughout the SPA
* Worked heavily on CSS3 and SASS to layout the mockup from the designer
* Used Next.js for Server-Side Rendering and SEO reasons allowing for significantly better SEO and user experience
* Implemented Storybook for better UI development, and testing.
* Integrated Givebutter donation system thus allowing much better savings on the donation and increased resources for focusing on their aim as compared to the previous donorbox third-party.
* Developed automated tests and carried out unit testing on the application using Jest and React-testing library to ensure software quality

Application Developer | Walsh University Aug 2018 – Dec 2019

Walsh University is a private catholic university. They have a program called Barnes and Noble First Day Complete that allowed students to get their course materials before their class officially starts. The students are automatically charged each semester for this program. If someone wants to opt-out of this, they would have to fill out a google form, and then Student Service Center would verify the data, and finally Finance would remove the fees. Now, even if only 500 students want to opt-out, the repetitive task gets complicated. This is why this project was created. It allows opting out with just click of two buttons on the student portal site. And everything including removing the charges was automated completely allowing for thousands of students to do it in no time without any hassle to any officials.

* Designed and implemented a web-app where students can easily opt-out of a textbook subscription that the university charges by default.
* Created a PHP page that communicated to a SQL Server to store students who have opted out. This ‘staging-database’ would then communicate with Banner integration and remove the fees for the students who opted out
* Designed the front-end applications, user interactive UI web pages using web technologies like HTML, CSS, jQuery, JavaScript
* Eliminated middleman work of the Finance and Student Service Center Department through automation thus making it much easier for both students and the department to operate the textbook subscription process
* Thoroughly tested different scenarios on the development environment and pushed the code to production environment allowing its use among thousands of students every semester.
* Streamlined the process of filing Fitness Center Waiver Form for students. A PHP page in the student portal site allows the waiver to be signed and will be stored in a server instead of Microsoft forms as previously done.

Personal Projects:

OSM | osm.sagarsubedi.com

* OSM (Online School Management) is a free, full stack MERN application that allows for much smoother teaching and learning experiences for schools in countries that cannot afford to pay for tools like Blackboard.
* Next.js is used on top of React. Next Auth is used for authentication.
* Used Tailwind CSS for styling and Material-UI for components.
* Worked with modules like MongoDB and Mongoose for database persistence using NodeJS to interact with MongoDB
* Implemented REST API using NodeJS and extensively tested RESTful services using Postman
* Implemented services, controllers, directives, factory functions to properly consume API on the front-end and send back data in JSON format to the back-end by capturing in the UI
* Used Redux for global state management.
* Used library like react-charts to generate dynamic chart for dashboard purposes
* OSM features 3 modes: student, professor and administrator, where each have different use cases

Next Music | musicapp.sagarsubedi.com

* A full stack PERN app built with typescript that allows user to log in and play music.
* Implemented user credential login along with jwt and bcrypt for better authentication and authorization
* Coded custom hooks like useMe and usePlaylist that organizes user data and the current playlist data
* Integrated Prisma as the ORM of choice for communicating with the postgresql database hosted on Heroku
* Created appropriate schemas for the prisma client like User, Song, Artist, and Playlist
* Used Next.js and its in-built api routes for authentication and middleware that ensures denial to protected pages unless user is signed in
* Leveraged Next.js’ dynamic routing to create routes dynamically for the playlist the user chooses to view
* Successfully implemented features like play, pause, shuffle, repeat, next, previous, and drag seek

CryptoVerse | cryptoapp.sagarsubedi.com

* A react app that provides information on multiple cryptocurrencies
* Implemented Redux.js for global state management with custom reducers that fetches data from two different API i.e. the CoinRanking API and Microsoft Bing News Search API from rapidapi.com
* Used Ant Design for the components and design system empowering a clean looking UI with reusable components
* Powered the api calls via RTK Query with dynamic queries based on the time frame selected by the user
* Coded the ability to narrow the cryptocurrencies list via a search feature that filters cryptos based on user input and updates the DOM
* Added the ability for user to search news for a selected cryptocurrency from a list of cryptocurrencies that is itself fetched from CoinRanking API
* Hosted on Vercel with a CI/CD pipeline that listens to changes on the main branch and pushes the app to production
* Revamped the API endpoints to meet the updated CoinRanking V2 API after carefully reading the documentation and fixing bugs on the way

Education

* BSc. Computer Science – Programming
* Graduated with an Honors degree with 3.83 GPA and awarded “Outstanding Senior in Computer Science”, a competitive award awarded to only one student from each major