

# Utsav Krishnatra

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## Skills

**Programming Languages:** JavaScript(ES6), TypeScript, CSS3, SCSS, HTML5, GraphQL, SQL, Python, Java, C, C++  
**Web Frameworks/Runtime Environments:** React JS, Angular, Django, NodeJS, Express, Next JS  
**Libraries:** React-Redux, Redux-Thunk, Redux Toolkit, Express, NumPy, Pandas, JSP, Servlets, JSTL, XML  
**Data-Format and Interface Protocols:** JSON, YAML, XML, REST API  
**Databases & Cloud Technologies:** MySQL, PLSQL, MongoDB, Firebase, Azure, Docker  
**Tools/Methodologies:** Git, Scrum, Agile, VScode, Eclipse, Jira, Linux (Ubuntu), Postman, Jenkins, Jest, Enzyme  
**Version Control & Development Practices:** Git, GitHub, GitLab, Atlassian Bitbucket, Trello, Jira, Agile, Confluence  
**Core Competencies:** Design Patterns, OOPS, System Design and Architecture  
**Advanced Microsoft office:** Word, Excel, Powerpoint, Outlook, Sharepoint

## Education

<b>University of Windsor</b> Master of Applied Computing	Jan 2023 - Present
<b>Guru Gobind Singh Indraprastha University</b> B.Tech in Information Technology	Aug 2016 - Oct 2020

## Experience

<b>Software Developer 1   Tata Consultancy Services, Bengaluru, India</b>	Apr 2021 - Oct 2022
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**Technologies:** *ReactJs, NodeJS, ExpressJS, SQL Server, Azure, Bitbucket*

**OOPS, Design Patterns, CI/CD, GitLab, Postman**

- Collaborated in Agile to analyze the University of Sydney's LMS requirements, translating insights into precise designs. Applied design patterns (Singleton, Factory) and OOPS principles, achieving a 20% boost in development efficiency.
- Worked on function-based components: course catalog, profiles, and tracking. Utilizing ReactJS, Chart.js for data visualization, and a mix of Bootstrap, Tailwind CSS, and MUI for seamless design, hence achieving a 30% enhancement.
- Implemented Inheritance and Encapsulation in Redux actions and reducers for inventory management, enhancing code modularity, maintainability, and ensuring a seamless user experience.
- Employed Polymorphism in deploying GraphQL APIs for dynamic academic event communication, attracting broader user base through responsive reminders, and enhancing UX. Utilized Jest and Enzyme for testing and debugging.
- Efficiently managed MongoDB user-profiles and course pages. Used SQL Server for structured data, optimized performance via Redis caching, ensuring less than 5% latency and over 99% availability.
- Designed and implemented a secure and scalable RBAC system, using Auth0 and Azure Active Directory for cloud-based identity and access management while designing it for a user base of over 1 million.
- Orchestrated CI/CD with Bitbucket Pipelines for faster code integration, testing, and deployment.
- Engaged in daily scrums, JIRA management, fostering cross-functional teamwork for quality development.

<b>Software Developer Intern   Ernst &amp; Young, Gurugram, India</b>	Jan 2020 - July 2020
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**Technologies:** *Python, JavaScript, Django, MySQL, Git, Jenkins, Rest API*

- Conducted security analysis using agile methodology and tracking progress through Jira for National Housing Bank comprehending technical needs and contributing to client meetings while defining security goals.
- Developed custom web scraping app with MVT architecture with Singleton Pattern and Encapsulation. Utilizing BeautifulSoup and Scrapy to assess vulnerabilities in the client's digital infrastructure. Leveraged MongoDB as the database to securely store the generated risk, threat, and vulnerability reports as JSON data.
- Utilized Django backend for security and scalability, incorporating REST API. Automated notifications with Node Mailer, sending risk alerts, updated the dashboard and integrated Chart.js for comprehensive visualizations.
- Implemented CI/CD pipelines using Jenkins, employing Factory Pattern to automate end-to-end processes. This streamlined workflow resulted in a significant reduction in threats and increased operational efficiency.
- Conducted security analysis using agile methodology and tracked progress through Jira for National Housing Bank, implementing Observer Pattern to comprehend technical needs and contribute to defining security goals.

**Technologies:** *Java, Cipher, Symmetric key Algorithms, LaTeX, MS Word*

- Created a symmetric key algorithm using multi-layered ciphering techniques and 2D geometrical patterns.
- Designed a custom cipher that used Cross Language Cryptography techniques, pseudo-random keys along with unique properties of geometric shapes to develop encryption and decryption techniques.

**Publications** | ([Link](#))

Apr 2020

- Usage of two-dimensional(2D) figures and proposed 3D geometry in encryption and decryption.
- Additional security using multiple levels of encryption and customized padding.

## Projects

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**Web Search Engine (Team Project) | University of Windsor**

Mar. 2023 - Apr. 2023

**Technologies:** *Java, JavaFX, Spring Boot, Selenium, MySQL, GIT*

- Developed a flight search engine with web crawling, HTML parsing, Trie-based dictionaries, and Red-Black Trees for improved data retrieval efficiency.
- Enhanced word search accuracy using Trie-based dictionaries and Red-Black Trees, resulting in quicker and more precise results.
- Strengthened text analysis with a Ternary Search Tree (TST) and advanced algorithms, refining search results and improving the overall user experience.
- Exercised web crawling using Selenium and web scraping to get prices of the listed flights

**Client-Server mini-Bash Application for Linux (Team Project) | University of Windsor**

Jul 2023 - Aug 2023

**Technologies:** *C, C++, Socket Programming, Process Control, Threads, Linux Shell Scripting, Unix File I/O*

- Developed a client-server application with robust file management features, providing efficient retrieval, filtering, and search commands for improved user experience.
- Performed load balancing, optimizing resource utilization by having the server handle the first 6 client connections and the mirror taking the next 6, ensuring enhanced performance.
- Ensured seamless socket-based communication and thorough user command validation to enhance the overall functionality and reliability of the application.

**React Reels**

Oct 2022 - Feb 2023

**Technologies:** *ReactJs, ExpressJs, NodeJS, Firebase*

- Enhanced state management in User Profile page using Redux for user-specific data and interactions. Applied Intersection Observer in the Feed page optimizing dynamic content loading, and enhancing user experience
- Designed system architecture and databases for a multi-user experience, including media storage, authentication, and database management, utilizing Google Firebase. Deployed the project on Heroku for reliable accessibility and scalability.
- Developed APIs for user authentication and executed essential database operations, including CRUD operations for user media uploads, retrieval of user profile credentials, and fetching the latest reels of friends and advertisements.

**Full Stack Food Delivery Application**

Aug 2022 - Nov 2022

**Technologies:** *MongoDB, ReactJs, Express, Nodejs*

- Utilized the MVC architecture to develop a home page, menu, and order tracking, integrating ReactJS, Bootstrap, MUI, NextJs, and ParticleJs, creating a visually appealing user interface, significantly enhancing the overall user experience.
- Incorporated Mongoose for structured schema design, opting for MongoDB to accommodate the application's unstructured data needs enhancing data storage efficiency and overall application performance.
- Executed secure multi-factor authentication through OAuth and JWT with Node.js and Express middleware. Also, integrated the Stripe payment gateway with REST APIs enhancing user experience and payment security.

**HackerRank Automation**

Jun 2022 - Jul 2022

**Technologies:** *Puppeteer, Axios, JavaScript, HTML5, CSS3*

- Axios fetches data from relevant APIs, and Puppeteer navigates to the desired section and feeds the answer data, simulating a user through various options available.

## Achievements

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- AZ-900: Azure Fundamentals Certified
- Solved nearly 250 LeetCode Questions (91 Medium, 37 Hard, 74 Easy) on Data Structures, Algorithms, and SQL.
- Achieved 1st Position in Smart India Hackathon for fostering Women Empowerment and Growth in the Rural Sector.