

RUPAL JAIN

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Portfolio: <https://rupaljain97.github.io>

EDUCATION

Master of Science in Computer Science | The University of Arizona, Tucson, AZ, USA | GPA: 3.55

Aug 2022 - May 2024

Bachelor of Technology in Computer Science Engineering | GGSIPU, Delhi, India | Grade: 8.64

Aug 2015 - May 2019

SKILLS

Programming Languages: C++/C, Python, Java, R; | **Web Development:** JavaScript, Node.js, HTML/CSS, Familiar: React.js, MERN Lib/Frameworks: jQuery, Express.js, Flask, D3, RESTApi, Socket.io, AJAX; **Cloud services:** AWS Lambda, S3, Google Cloud Platform **Databases:** MySQL, Oracle PL/SQL, Informatica, Teradata, MongoDB, Firebase, PostgreSQL; | **OS:** Linux, Unix, MAC, Windows **API/Tools:** JotForm, Docker, JSON, GIT, GitLab, Dialogflow, Putty, Agile, Jira, Confluence, Jenkins, CI/CD, Google Colab **Interpersonal Skills:** Adaptive, Self-starting, Problem Solving, Triaging, Debugging, Analytical

EXPERIENCE

Graduate Teaching Assistantship | CSC/ECE dept. at UofA | Tucson, AZ, USA

Aug 2023 - Present

- Managing and grading programming assignments for Software Engineering, Cloud Computing, Web Development & IOT courses

Software Developer Intern | Resilient Software Security | Phoenix, AZ, USA

May 2023 - Aug 2023

- Automated client's software security analysis report generation reducing manual processing time from a week to few seconds
- Deployed report generation algorithm on AWS Lambda function using Docker container images
- Integrated JotForm API, AWS (Lambda, ECR for data storage, Secret manager), GCP (Google API for email) using JavaScript (JS)
- Wrote algorithm to decode JotForm multipart responses to a specific JSON format for AWS Lambda HTTP API gateway input
- Employed GitHub Actions for Cloud Deployment. Documented complete architectural decisions report. Used Asana for task tracking

Software Developer | Tata Consultancy Services | Mumbai, India

July 2019 - July 2022

- Involved in development, support, debugging, code review & deployment (in Jenkins) of TCS internal career portal using Maven, Java
- Optimized extensive PL/SQL queries, achieving 50% reduction in run-time cost. Conducted GDPR/CCPA Audit for the project
- Worked in Client's backend database team, conducted database system migration from SAP ECC to SAP S/4 HANA version in SQL
- Revamped legacy code mapping in Informatica, migrated technical metadata to stored procedures, adhering to Agile practices

Software Developer Intern | Utopian Dreams Pvt. | New Delhi, India

June 2018 - Aug 2018

- Added CSV Export/Import functionality in a FinTech platform, using Node-xlsx, XLSX JavaScript library with PostgreSQL database
- Added location functionality using Google Maps API and statistical charts using Highcharts API for nice visual data interpretation

PROJECTS AND PUBLICATION

Software for UofA Badminton Tournament Management System [[GitHub](#) Link]

Apr 2023

- Created Public/Admin/Player view Dashboard using HTML/CSS. Developed model controller in Flask (python). Linked server in EC2 instance with Amazon RDS using PostgreSQL. Used Pytest for Unit and Functional Software Testing
- Managed project using Jira, Confluence & GitHub. Collected customer feedback in each Sprint Iteration. Followed Scrum, Agile practices for software development. Properly documented Progress/Final Architecture Report at every stage of product development

AI Detecting Hate Speech words in Tweets – Neural Network with Lucene in Java [[GitHub](#) Link]

Apr 2023

- Fine-tuned BERTweet model and optimized hyperparameters for diverse datasets using Python. measured performance using machine learning evaluation metric. Improved f1-score compared to original model
- Used NumPy, Pandas for data processing. Pytorch for GPU config Fetched tweets using Twitter4J API with Lexicon approach

Data Visualization Projects [[GitHub](#) Link] [[GitHub](#) Link]

Apr 2023

- Built Graphical user Interface (GUI) using PyQt5, CV2 for image compression, QtGraph, matplotlib for plots, Pandas lib in Python
- Represented complex dataset using treemaps, volume rendering (VTK library), and vector field visualization using d3.js in JavaScript

Computer Security Project - Analysis of Cryptocurrency Exchanges [[GitHub](#) Link]

Dec 2022

- Analyzed major security breaches of top 4 cryptocurrency exchange, used Cryptoguard to detect crypto vulnerabilities

Artificial Intelligence Chatbot – Student Support System [[GitHub](#) Link]

Apr 2019

- Responsive webpage using jQuery, JavaScript. bot trained & deployed in Dialogflow, GCP with Firebase DB. created server in Node.js

C++ Projects [[GitHub](#) Link] [[GitHub](#) Link]

Dec 2017

- Rolling Dice Board Game: A Multiplayer game with interactive prompts in each turn. Used graphics library
- Rubik Cube Solver: Solve cube from any scrambled state, user can also input moves to solve. Used vectors

Presented existing ML paper on “Contextual Combinatorial Cascading Bandits” [[Presentation](#) Link]

Nov 2023

Published: “Importance of Machine Learning in the Growth of Twitter”, IJRASET, April 2019 [[Paper](#) Link]

Apr 2019

Volunteering for Girls Who Code: Teaching Python programming language to middle-school girls

Aug 2023 - Present