linkedin.com/in/kshitiziitkgp
github.com/KshitizS9082

Kshitiz Sharma

+91 8768117888
kshitizsharma.dev@gmail.com

Education

Indian Institute of Technology Kharagpur	Computer Science and Engineering	Jul 2017 - Apr 2022

- B.Tech.(Honours)+M.Tech. in Computer Science and Engineering — **CGPA: 8.51/10**

Technologies and Languages

Languages	Python, Java, C/C++, Swift, Shell Scripting
Tools	OCI, Oracle Machine Learning, Redis, Celery, MySQL, Pandas
Frameworks	Django, Flask, Scikit-learn, TensorFlow, XGBoost

Experience

Oracle Corporation (Logistics AI Team) — Senior Software Engineer (IC3) — **Sept 2024 - Present**

- Delivered a global trade HS code classifier, leveraging an NLP pipeline on product descriptions to achieve 89% top-3 accuracy.
- Mentored the winning team in Oracle's IDC New Hires GenAI Hackathon, creating an LLM to automate support request resolution.
- Represented the ML development team at OTM SIG'24 Bangalore, engaging with stakeholders to propose and discuss innovations.

Oracle Corporation (Logistics AI Team) — Software Engineer (IC2) — **Jul 2022 - Aug 2024**

- Prototyped 'EML v1.0', a REST-exposed, scalable, distributed, Automated Machine Learning solution. *(OCI, Django, Celery, Dask)*
- Deployed on an OCI cluster, leveraging Celery and Dask for robust distributed processing, achieving up to 20% training speedup.
- Designed and implemented 'EML v2.0', a scalable, containerized MLaaS infrastructure built on OML. *(Oracle Machine Learning)*
- Enhanced enterprise code to integrate EML by developing extendible Java components for efficient future ML workflow integration.
- Deployed a shipment transit time estimation solution by analyzing generalized datasets and creating a versatile script for customers to train custom data. Achieved an initial RMSLE of 0.35. *(OML, Scikit-learn)*
- Enhanced the transit time estimation model by decomposing shipments into domain-specific events and incorporating target encoding and geospatial encoding, achieving a 50% reduction in RMSLE.
- Enhanced organisation's REST authentication framework by integrating OAuth2.0 ROPC authentication. *(Java)*

Oracle Corporation (Oracle Transportation Management) — Intern — **May 2021 - Jul 2021**

- Developed a predictive API to estimate an internal heuristic algorithm's run time and aid it's scheduling. *(Flask)*
- Implemented ensemble techniques using seven regression models and achieved an RMSE of 2.6 hours. *(Scikit-learn)*

Projects

Understanding User-side Security Concerns in Indian UPI Apps (Masters Thesis) — **Sep 2021 - July 2022**

Advisor: Professor Mainack Mondal, IIT Kharagpur and Professor Xinru Page, BYU — **Grade: EX(10)**

- Researched user mental models in fraudulent scenarios and conducted controlled simulations to identify mitigation strategies.
- Developed a dummy UPI app on iOS simulator with the ability to permute influential variables. *(Swift, Xcode)*
- Developed a RESTful server to remotely orchestrate attack scenarios and generate user data logs. *(Flask, simctl)*

Poster Presentation at USENIX Symposium on Usable Privacy and Security (SOUPS) 2022, Boston

Conditional Affordance Learning for Autonomous Drivings (Research Project) — **May 2019 - Jun 2019**

Advisor: Professor Sourangshu Bhattacharyaa, IIT Kharagpur

- Implemented a multi-task deep neural network to predict affordances, a low-dimensional representation cues for driving environment.
- Extracted features using VGG-16 and experimented with task-specific models (LSTM, GRU, TCN). *(Keras, TensorFlow)*
- Achieved average 15% higher success rates and 20% faster inference over baseline models, reaching 92% success in novel scenarios.

Facial Recognition Malware Analysis for Android Apps (BTP Seminar) — **Jan 2020 - Jun 2020**

Advisor: Professor Mainack Mondal, IIT Kharagpur — **Grade: EX(10)**

- Devised a static analysis tool to identify sensitive data flows in 600 Non-market Android APKs. *(Python, Selenium)*
- Designed a script to reverse-engineer APKs and detect vulnerable call graphs using facial recognition tokens. *(Androguard, PScout)*

End-to-end encrypted (E2EE) Messaging Service (Software Engineering Term Project) — **Feb 2019 - Apr 2019**

Advisor: Professor Debasis Samanta, IIT Kharagpur

- Developed an RSA-AES powered Android messaging service, adhering to software engineering lifecycle. *(Java, Android Studio)*
- Implemented a secure client-server architecture for real-time communication. *(Java-Socket API, JDBC, MySQL)*

Competitions

Legal Search Engine — General Championship Technology IIT Kharagpur 2018-19 — **Position: Silver**

- Implemented a search engine to retrieve relevant information from a database of more than 53000 case reports.
- Created four pipelines to process search queries and access relevant keys according to predicted data types.
- Tokens were then queried using Elasticsearch in a MongoDB database to rank documents based on their relevance.
- Extracted vital information from the original documents to establish a database with optimized search performance.

Co-Curricular Activities

- Secretary of Technology, Azad Hall of Residence (Jul-Dec'19): Overseeing hall teams in Technology General Championship, IIT Kharagpur *(Hardware Modelling: Gold, OpenSoft: Silver, Data Analytics: Bronse)* — **Position: Silver**
- Teaching Assistant, IIT Kharagpur: Artificial Intelligence (Autumn 2021), Principles of Programming Languages (Spring 2022).