Mrityunjay Kumar

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EDUCATION

Stony Brook University   Stony Brook, NY
Master of Science in Computer Science; GPA: (3.59/4.0)   *Jan. 2019 – May. 2020 (exp)*
Relevant Courses : Distributed Systems, Operating Systems, Data Visualization, Computer Vision

Maulana Azad National Institute of Technology   Bhopal, India
Bachelor of Engineering in Computer Science & Engineering; GPA: (7.85/10.0)   *July. 2010 – June. 2014*

RESEARCH EXPERIENCE

Distributed systems Lab   Stony Brook, NY
Under guidance of Prof. Shuai Mu   *June 2019 - Present*

- **Distributed replicated Multi-core Database**:
  - Implemented verification pipeline for serialization of logged streams
  - Optimized transaction replication across remote machine with minimal slowdown
  - Implementing asynchronous replication with multi-process paxos to remove contention.

EXPERIENCE

TALENTICA SOFTWARE   Pune, India
Senior Software Engineer   *April 2016 - Jan 2019*

- **Network Traffic Estimation**: Implemented a regression model for bandwidth prediction. Lazy Loading of ML model instance in storm from AWS. Implemented object based serialization serving framework over http requests.
- **Machine Learning Algorithm Store**:
  - Implemented protobuf inspired based serial stream Model store
  - Improved processing engine capability by 2x
- **Indoor Location Positioning for BLE assets**: 91% accuracy in location prediction and 95% classifying the region for Static Assets and 68% accuracy in Regression based on region triangulation using RSSI and the interference correction
- **Financial Document Search Engine**: Improved relevancy by 25%. Improved Online Ontology enhancer, NLP Pipeline for Document Clustering, Keyword Extraction, Text Classification.

MEDIATEK   Noida, India
Software Engineer   *August 2014 – April 2016*

- **Audio Player**: Improved Audio Player sub-modules Playlist, Integrated BT Stack in MMI Layer
- **Internal Tool Development**: Wrote SW Layer code for Stress Test based Combo(GPS-WiFi-BT) Tool.

PROJECTS

- **Raft**: Implemented Sharded and replicated fault-tolerance key-value store based on raft.
- **Map-Reduce library**: Implemented distributed map reduce library and worker failures from paper.
- **Backup File System in Linux Kernel**: Implemented stackable file system which takes created backup on every successful write/delete/rename having queue based version & retention policy.
- **Encryption based System tool for Linux Kernel**: Implemented system call for encrypt/decrypt file using AES provided by kernel crypto API.

Publication

[1] R. Guntur and **Mrityunjay Kumar**. Learning to fingerprint the latent structure in question articulation. In *2018 17th IEEE International Conference on Machine Learning and Applications (ICMLA)*, pages 73–80, Dec 2018.

PROGRAMMING SKILLS

- **Languages**: C++, Python, C, Golang, Java   **Technologies**: Spark, Storm, Keras, Protobuf, gRPC, Neo4j