

Mrityunjay Kumar

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EDUCATION

- **Stony Brook University** New York, USA
Master of Science in Computer Science, GPA: (3.59/4.0) *Jan. 2019 – May. 2020 (expected)*

- **Maulana Azad National Institute Of Technology** Bhopal, India
Computer Science & Engineering, CGPA: 7.85/10 *Aug. 2010 – May. 2014*

Coursework: Distributed Systems, Operating Systems, Data Science, Computer Vision, Visualization

EXPERIENCE

- **Distributed Systems Lab - Stony Brook University** Jun 2019 - till
Graduate Research Assistant - Under guidance of Prof. Shuai Mu *Stony Brook, NY*

- **Distributed Multi-core Transactional Database**

- * Implementing asynchronous replication with multi-process paxos to remove contention.
- * Implemented replay protocol to guarantee serializability and wrote verification pipeline for logged streams.
- * Implemented fast header-only/compiled, C++ logging library facilitating aligned memory allocators with features like Rotating log and auto-flush in approx. 1200 LOC.

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

- **Estimation & Prediction algorithms for Wireless Systems**

- * Implemented an ingestion pipeline for model deployment using **Storm, Kafka, Python, Java**
- * Achieved 80% overall accuracy in network traffic prediction using **Ensemble regression Tree**.
- * Added an ad-hoc client to Storm topology to support collection of Real-time data to Disk & Batch pipeline using **Java, Spark**.
- * Developed a live BLE asset view portal to support data collection team, adding 70% more correctness to site calibration using **JavaScript, Kafka, Python**.

- **File Sync Application**

- * Developed a client application update framework to support release notification for multi-talent architecture using **Java, C++, Python**.

- **Financial Document Search Engine:**

- * Improved search relevancy by 45%. Improved Online Ontology enhancer by 30%, NLP Pipeline for Document Clustering, Keyword Extraction, Text Classification.

- **MediaTek** Aug 2014 - April 2016
Software Engineer *Noida, India*

- As a **feature owner** of Audio module, implemented design and bug-fixes for new product release. Improved playlist design to reduce playlist update **overload by 25%**, Integrated BT Stack in MMI Layer
- Wrote Software Layer code for Stress Test based Combo **GPS-WiFi-BT** Tool in VC++

PROJECTS

- **Raft** Implemented Sharded and replicated fault-tolerance key-value store based on raft protocol from scratch in Go.
- **Map-Reduce library** Implemented distributed map reduce library and worker failures from paper.
- **Backup File System in Linux Kernel** Implemented stackable file system with custom Visibility, Retention and Version Management Policy under guidance of **Prof. Erez Zadok** using C and VFS Layer.
- **Encryption based System tool for Linux Kernel** Implemented system call for encrypt/decrypt file using AES provided by kernel crypto API under guidance of **Prof. Erez Zadok** in C.

PROGRAMMING SKILLS

- **Programming Languages**: C, C++, Java, Go, JavaScript, SQL
- **Technologies**: Storm, Spark, Redis, REST, Kafka, AWS, Git/Perforce, MATLAB