Nitin Awathare

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Education

Jul 2016 – Feb 2022 | **IIT Bombay**
Ph.D. in the Department of Computer Science and Engineering

Jul 2013 – May 2015 | **IIT Kharagpur**
M.Tech in the Department of Computer Science and Engineering

Jul 2008 – May 2012 | **WCE Sangli**
B.Tech in the Department of Computer Science and Engineering

Work Experience

Jun 2015 - Jul 2016 | **Capillary Technologies, Bangalore, India**
- Worked on ERP application using AX-Dynamics.

Jun 2012 - Jul 2013 | **Persistent System Ltd., Pune, India**
- Work on API development using Django-Python

Research Internship

Jun 2019 - Aug 2019 | **IBM Research Lab, Bangalore, India**
- Worked on empirical evaluation of different permissioneed blockchain protocols such as Quorum, Hyperledger Fabric, Corda.

Research Interest

My area of interest is majorly related to *Distributed Systems*. Specifically, During my Ph.D. I worked on performance improvement in the Blockchain in terms of the amount of allowable computation and throughput without compromising security and entitled my Ph.D. thesis as "**On the Scalability of Blockchains**". However, I am interested in exploring other areas in Distributed Systems, such as consensus algorithms. Furthermore, I will be interested in the intersection of ML and Blockchain, such as efficiently running an ML model on the Blockchain.

Publications

2021
2. **Awathare, N.**, Das, S., Ribeiro, V. J. & Bellur, U. RENOIR: Accelerating Blockchain Validation using State Caching. *International Conference on Performance Engineering (ICPE)* (2021).
3. **Awathare, N.**, Suraj, Akash, Ribeiro, V. & Bellur, U. REBAL : Channel Balancing for Payment Channel Networks. *IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)* (2021).

2022
1. Das, S., **Awathare, N.**, Ren, L., Ribeiro, V. J. & Bellur, U. Tuxedo: Maximizing Smart Contract computation in PoW Blockchains. *ACM SIGMETRICS / IFIP PERFORMANCE* (2022).

Patent Application

Jun 2020 | **Method for scaling computation in blockchain by delaying transaction execution**
`https://patents.google.com/patent/US20200409941A1/en`
US Patent App. 16/912,389

Ongoing Projects

- **Renoir-NG**: Aims to reduce both block validation time as well as block creation time by pre-execute the transactions on arrival as an individual.

- **Integration of Tuxedo explaination about Tuxedo to sharded blockchain**: Allow Computation Intensive Transaction (CIT) in the sharded blockchain without violating existing security constraints.

- **Lightning network with partial view of topology**: Route the transactions with having only neighboring node information by compromising the privacy a bit.