

Nitin Awathare

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Education

Ph.D.	IIT Bombay (Jul 2016 – Feb 2022) <i>Department of Computer Science and Engineering</i> Advisor: Prof. Umesh Bellur and Prof. Vinay Ribeiro
M.Tech	IIT Kharagpur (Jul 2013 – May 2015) <i>Department of Computer Science and Engineering</i> Advisor: Prof. Arobinda Gupta
B.Tech	WCE Sangli (Jul 2008 – May 2012) <i>Department of Computer Science and Engineering</i>

Work Experience

Jun 2015 - Jul 2016	Capillary Technologies, Bangalore, India <ul style="list-style-type: none">Worked on API development using Django-Python.
Jun 2012 - Jul 2013	Persistent System Ltd., Pune, India <ul style="list-style-type: none">Worked on ERP application using AX-Dynamics.

Research Internship

Jun 2019 - Aug 2019	IBM Research Lab, Bangalore, India <ul style="list-style-type: none">Worked on empirical evaluation of different permissioned blockchain protocols such as Quorum, Hyperledger Fabric, and Corda.
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Research Interest

My area of research is Blockchain. During my Ph.D. I worked on enhancing the amount of allowable computation and throughput in the Blockchain without compromising security. Furthermore, I am interested in exploring other areas in Distributed Systems and the intersection of ML and Blockchain, such as efficiently running an ML model on the Blockchain.

Publications

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

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

Professional Activities

- I am a reviewer for **Transactions on Management Information Systems(TMIS)**. Furthermore, I act as a shadow reviewer for COMSNETS and SIGMETRICS.
- I am a technical advisor for an e-learning company **TalentServe**.

Skills

- Languages: C/C++, Java, Python, Shell Script, Solidity, Golang.
- Technologies: Ethereum, Bitcoin, Quorum.
- Tools: Omnet++, LaTeX, gnuplot.

Additional academic projects

- **M.Tech Thesis**

Title	Description	Tool & Technology
Measuring and improving the quality of barrier coverage in the wireless sensor network	In this work, we propose a distributed approach to improve the quality of k-barrier coverage with the objective of minimizing the number of sensors required.	C++

- **Complex Network course project**

Title	Description	Tool & Technology
Edge based attack on time varying network	In this work, we evaluate the severity of the attack in terms of closeness centrality, network connectivity, etc., for the different attacking behavior that prioritizes the edge to attack based on betweenness centrality, eigenvector centrality, degree centrality, etc. Furthermore, we compare this attack with the node-based attack.	Python

- **Software Defined Network course project**

Title	Description	Tool & Technology
Implementation of ECMP and Firewall in Mininet Network using OpenDaylight SDN Controller	In this work, we implement the ECMP (Equal Cost Multiple Path) routing and Firewall in a network of SDN switches using an SDN controller.	1.Mininet network virtualization tool, 2.OpenDaylight SDN controller