

Parwat Singh Anjana

Applied Researcher ([SupraOracles](#))

PostDoc, Ph.D. ([IIT Hyderabad](#))



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Research Interests

- Blockchains Technology
- Parallel and Distributed Systems
- Software Transactional Memory

Work Experience

May 2022 – **Applied Researcher**, *SupraOracles.com*.

Jan – May 2022 **Postdoctoral Researcher**, *PDCRL Lab, Department of CSE*, Indian Institute of Technology Hyderabad, India.

2017 – 2022 **Teaching Assistant**, *Department of CSE*, Indian Institute of Technology Hyderabad, India.

Education

2017 – 2022 **Ph.D. in Computer Science**, *PDCRL Lab*, Department of CSE, Indian Institute of Technology Hyderabad, India,
Supervisor: [Dr. Sathya Peri](#),
Thesis Title: Techniques for Efficient Parallel Execution of Smart Contracts in Blockchains,
7.43/10 CGPA.

2014 – 2016 **M.Tech. in Computer Science**, *University of Hyderabad, India*, **8.71/10 CGPA**.

2007 – 2011 **B.Tech. in Computer Science**, *Rajasthan Technical University, India*, **63.89 %**.






Publications

In Peer-reviewed Journals





- J2 **Parwat Singh Anjana**, Sweta Kumari, Sathya Peri, Sachin Rathor, and Archit Somani. *OptSmart: A Space Efficient Optimistic Concurrent Execution of Smart Contracts*. Special Issue on Blockchain, Distributed and Parallel Databases, 2022, Pages: 1-53, ISSN: 1573-7578, Springer Nature Switzerland AG.
- J1 Shrey Baheti, **Parwat Singh Anjana**, Sathya Peri, and Yogesh Simmhan. *DiPETrans: A Framework for Distributed Parallel Execution of Transactions of Blocks in Blockchain*. *Concurrency and Computation: Practice and Experience*, 2022, Volume 34, No. 10, Pages: e6804, ISSN: 1532-0634, Wiley Press, New York, USA. **Equal contributions*.

In Peer-reviewed Conferences

- C7 Piduguralla Manaswini, Saheli Chakraborty, **Parwat Singh Anjana**, and Sathya Peri. *DAG-based Efficient Parallel Scheduler for Blockchains: Hyperledger Sawtooth as a Case Study*. Euro-Par '23. pp ?. Springer, Cham. *Accepted*.
- C6 Sinchan Sengupta, Sathya Peri, and **Parwat Singh Anjana**. *A Self-stabilizing Minimum Average Stretch Spanning Tree Construction*. NETYS '22. pp 119-135. Springer, Cham.

- C5 **Parwat Singh Anjana**, Adithya Rajesh Chandrassery, and Sathya Peri. *An Efficient Approach to Move Elements in a Distributed Geo-Replicated Tree*. IEEE CLOUD '22. pp 479-488. IEEE. 
- C4 **Parwat Singh Anjana**, Hagit Attiya, Sweta Kumari, Sathya Peri, and Archit Somani. *Efficient Concurrent Execution of Smart Contracts in Blockchains using Object-based Transactional Memory*. NETYS '20. pp. 77-93. Springer, Cham. 
- C3 **Parwat Singh Anjana**, Sweta Kumari, Sathya Peri, Sachin Rathor, and Archit Somani. *An Efficient Framework for Optimistic Concurrent Execution of Smart Contracts*. PDP '19, pp. 83-92. IEEE. 
- C2 **Parwat Singh Anjana**, Priyanka Badiwal, Rajeev Wankar, Swaroop Kallakuri, and C. Raghavendra Rao. *Cloud Service Provider Evaluation System using Fuzzy Rough Set Technique*. SOSE '19, pp. 187-18709. IEEE. 
- C1 **Parwat Singh Anjana**, Rajeev Wankar, and C. Raghavendra Rao. *Design of a Cloud Brokerage Architecture Using Fuzzy Rough Set Technique*. MIWAI '17, pp. 54-68. Springer, Cham. 

Short Papers in Peer-reviewed Conferences

- S4 **Parwat Singh Anjana**, Adithya Rajesh Chandrassery, and Sathya Peri. *An Efficient Approach to Move Elements in a Distributed Geo-Replicated Tree*. CCGrid '22, pp. 767-770, IEEE. , **Accepted as a short paper.**
- S3 **Parwat Singh Anjana**. *Efficient Parallel Execution of Block Transactions in Blockchain*. Middleware '21 Doctoral Symposium, pp. 8-11, ACM. 
- S2 Prashansa Agrawal, **Parwat Singh Anjana**, and Sathya Peri. *DeHiDe: Deep Learning-based Hybrid Model to Detect Fake News using Blockchain*. ICDCN '21, pp. 245-246. ACM.  ***Equal contribution.**
- S1 **Parwat Singh Anjana**, Sweta Kumari, Sathya Peri, Sachin Rathor, and Archit Somani. *Entitling concurrency to smart contracts using optimistic transactional memory*. ICDCN '19, pp. 508-508. ACM.  **Recipient of the best poster award.**

Manuscripts Under Preparation

- M1 **Parwat Singh Anjana**, Sandeep Kulkarni, Sathya Peri, Raaghav Ravishankar, and Diksha Sethi. *Caliber-GC: A Causally Consistent Space Efficient Geo-Replicated Distributed Key-value Store*. 2022. **Manuscript under preparation.**

Other Manuscripts

- U4 **Parwat Singh Anjana**, Sai Ramana Reddy, and Sathya Peri. *Empirical Analysis of Parallel Execution of Block Transactions in the Tezos and Ethereum Blockchain*. 2022.
- U3 **Parwat Singh Anjana**, Shailesh Mishra, and Sathya Peri. *BDIDS: A Blockchain-based Distributed Intrusion Detection System for IoT Networks*. 2021.
- U2 **Parwat Singh Anjana**, Sweta Kumari, Sathya Peri, Sachin Rathor, and Archit Somani. *OptNest: Optimistic Concurrent Execution of Nested Transactions in Blockchains*. 2021
- U1 Priyanka Badiwal, **Parwat Singh Anjana**, Rajeev Wankar, and C. Raghavendra Rao. *DRONA: A Data-driven Randomized Algorithm for Complex Optimization Problems*. 2016.

Technical Skills

- C, C++, Rust (Beginner), Concurrent Programming, Git, Eclipse, L^AT_EX, Geany, Texmaker, RStudio, Gnuplot, NetBeans.
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Strengths

- Quick learner, goal oriented, hardworking

- Ability to work independently as well as in a team.

Achievements

- Awarded Institute Postdoctoral Fellowship at Indian Institute of Technology Hyderabad, India (January 2022 - July 2022).
- Awarded Ministry of Education (MoE) Fellowship in 2017 at Indian Institute of Technology Hyderabad, India for pursuing Doctor of Philosophy (July 2017 - January 2022).
- Qualified the prestigious UGC NET exam in December 2015 for Lectureship.
- Qualified GATE for consecutive four years from 2014 to 2017, and awarded GATE scholarship for pursuing Master of Technology (2014 - 2016).
- Poster on “Entitling concurrency to smart contracts using optimistic transactional memory” won the Best Poster Award at ICDCN '19 Doctoral Symposium Abstract.

Services

- Student Co-organizer for Teqip Workshop on Blockchain Technologies at IIT Hyderabad from December 16th - 20th, 2019.
- Organized a session on “Ethereum Blockchain and Smart Contracts” during Teqip Workshop on Blockchain Technologies at IIT Hyderabad from December 16th - 20th, 2019.
- Student Placement Coordinator at School of CIS, University Of Hyderabad from July 2015 - July 2016.

(Sub)Reviewer for the Conferences/Journals

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| ◦ Acta Inf. 2018 (Journal) | ◦ ICDCN 2020, 2021, 2022 |
| ◦ ISeB 2020, 2021 (Journal) | ◦ ICDCIT 2019, 2020, 2022 |
| ◦ IJNM 2020 (Journal) | ◦ COMSNETS 2019 |
| ◦ IndoSys 2019 | ◦ CoDS-COMAD 2019, 2020, 2021 |
| ◦ ISEC 2022 | |

Teaching assistant at IIT Hyderabad for the following subjects

- Concurrency Control in Transactional System (CS5280)
- Parallel and Concurrent Programming (CS5300)
- Distributed Computing (CS5320)
- Operating System 1 (CS3510)
- Operating System 2 (CS3523)
- Computer Architecture (CS2323)
- Introduction to Programming Languages (CS1303)

Teaching assistant at University of Hyderabad for the following subjects

- Parallel Computing (CS751)
- Grid and Cloud Computing (CS773)

Masters, Bachelors and Intern students who worked with me at PDCRL Lab, IIT Hyderabad

- Diksha Sethi (cs19mtech11005@iith.ac.in)
- Sachin Rathor (cs18mtech01002@iith.ac.in)
- Kunal Jaun (cs18mtech11036@iith.ac.in)
- Adithya Rajesh (adithyarajesh.191cs203@nitk.edu.in) Intern from NITK, India
- Shailesh Mishra (mshailesh0511@iitkgp.ac.in) Intern from IITKgp, India
- Sai Ramana Reddy (cs17btech11022@iith.ac.in)
- Sitapara Om (cs16btech11036@iith.ac.in)

- Harshit Patel (cs16btech11017@iith.ac.in)
 - Raaghav Ravishankar (es15btech11021@iith.ac.in)
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References

- [Dr. Sathya Peri](#), Associate Professor
Address: Room 420, Academic Block C, Department of CSE, IIT Hyderabad, India
Contact: sathya_p@cse.iith.ac.in
 - [Prof. Rajeev Wankar](#), Professor
Address: Room N-107, School of CIS, University of Hyderabad (UoH), India
Contact: rajeev.wankar@gmail.com
 - [Dr. M. V. Panduranga Rao](#), Associate Professor
Address: Room 417, Academic Block C, Department of CSE, IIT Hyderabad, India
Contact: mvp@cse.iith.ac.in
 - [Dr. Kotaro Kataoka](#), Associate Professor
Address: Room 434, Academic Block C, Department of CSE, IIT Hyderabad, India
Contact: kotaro@cse.iith.ac.in
 - [Dr. Abhinav Kumar](#), Associate Professor
Address: Room 505, Academic Block B, Department of EE, IIT Hyderabad, India
Contact: abhinavkumar@ee.iith.ac.in
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Declaration

I hereby declare that the above-mentioned details are correct and complete to the best of my knowledge.

Parwat Singh Anjana

27 July 2023