Swapnil Gandhi

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EDUCATION

M.Tech. (Research), Indian Institute of Science (IISc) Aug 2017 – Jan 2020
Computer and Data Systems (CDS-CS)
Advisor: Yogesh Simmhan
Thesis: Distributed Programming Abstraction for Scalable Processing of Temporal Graphs

B.Tech., Bharati Vidyapeeth Pune Jul 2010 – Jun 2014
Computer Engineering
Department Honors and Gold Medalist

PUBLICATIONS

[Papers & Posters available here.]

PEER-REVIEWED CONFERENCES

[1] Swapnil Gandhi, Anand Padmanabha Iyer, "P^3: Distributed Deep Graph Learning at Scale", *(To appear) In proceedings of the 15th USENIX Symposium on Operating Systems Design and Implementation (**OSDI 2021**), Jul 2021.*
Acceptance Rate: $31/165 = 18.78\%$

[2] Swapnil Gandhi, Yogesh Simmhan, "An Interval-centric Model for Distributed Computing over Temporal Graphs", *In proceedings of the 36th IEEE International Conference on Data Engineering (**ICDE 2020**), Dallas, Texas, April 2020.*
Acceptance Rate: $129/568 = 22.71\%$

PEER-REVIEWED POSTERS

[1] Swapnil Gandhi, "Wave: A Substrate for Distributed Incremental Graph Processing on Commodity Clusters", *2nd ACM Student Research Competition (SRC) at 27th Symposium on Operating Systems Principles (**SRC- SOSP 2019**), Ontario, Canada, Oct 2019.*
Received Bronze Medal, Student Research Competition (Graduate Category)

[2] Swapnil Gandhi, Sayandip Sarkar, Abhilash Sharma, Yogesh Simmhan, "Distributed Querying over Compressed Property Graphs", *Student Research Symposium at 24th IEEE International Conference on High Performance Computing, Data and Analytics (**HiPC 2017**), Jaipur, India, Dec 2017.*
Received Best Student Research Symposium Poster

AWARDS & HONORS

Selected to participate in The Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS) 2020, Saarbrücken, Germany — Aug 2020

Bronze Medal, 2nd ACM Student Research Competition (Graduate Category), at SOSP — Oct 2019
For "Wave: A Substrate for Distributed Incremental Graph Processing on Commodity Clusters".

Won 12th IEEE International TCSC Scalable Computing (SCALE) Challenge — May 2019
For "Dynamic Scaling of Video Analytics for Wide-area Tracking in Urban Spaces".

Best Poster Award, 10th EECS Research Students Symposium, IISc Bangalore — Apr 2019
For "Distributed Processing Model For Temporal Graphs".

Invited to attend 3rd RIKEN R-CCS HPC Youth Workshop, Kobe, Japan — Feb 2019

Best Student Research Symposium Poster, IEEE HiPC, Jaipur, India — Dec 2017
For "Distributed Querying over Compressed Property Graphs".

Department Honors, Bharati Vidyapeeth, Pune — Jun 2014
For outstanding academic performance (Batch 2010 – 2014).

TCS Popular Student Project, Bharati Vidyapeeth, Pune — May 2014
For "Mutation Testing Tool for C Programs", Bachelors dissertation.

Best Undergraduate Project Award, TRDDC Annual Students Day, Pune — Apr 2014
For "Mutation Testing Tool for C Programs", Bachelors dissertation.

WORK EXPERIENCE

Research Fellow, Microsoft Research India — Jul 2021 – Present
Mentor: Anand Iyer
Exploring techniques for improving training and inference performance of graph neural networks on modern hardware.

Software Engineer II, Microsoft Azure R&D India — Mar 2021 – Jun 2021

Research Intern, Microsoft Research India — Sep 2020 – Mar 2021
Mentor: Anand Iyer
Explored implications of combining model and data parallelism with independent graph partitioning for training graph neural networks at scale (P^3).

Research Intern, Microsoft Research India — Mar 2020 – Aug 2020
Mentors: Bhargav Gulavani, Karthik Ramachandra
Worked on investigating and overcoming performance regressions in scalar UDF inlined queries.

Operations Engineer, PubMatic India — Jun 2014 – Jul 2016
Worked on reporting and ad-hoc data processing pipelines using combination of Hadoop, Hive, and Pig.

SERVICE

Shadow PC External Review Committee Member, ACM EuroSys 2021 — Oct 2020
Artifact Evaluation Committee (AEC) Member, USENIX OSDI 2020 — Aug 2020
Artifact Evaluation Committee (AEC) Member, ACM ASPLOS 2020 — Dec 2019
Artifact Evaluation Committee (AEC) Member, ACM SOSP 2019 — Aug 2019
Treasurer and General Secretary for IISc ACM Student Chapter — Apr 2019 – Mar 2020

TEACHING ASSISTANTSHIPS

DS 256: Scalable Systems for Data Science, IISc — Jan 2019
Graduate Teaching Assistant for DS 256. Handled weekly discussion sections, homework assignments and helped with class projects (≈ 10 students).

E0 261: Database Management Systems, IISc — Oct 2018
Covered lecture on Google's Spanner and Apache Giraph. (≈ 30 students).

REFERENCES

Available upon request.

[*CV compiled on 2021-06-27*]