Swapnil Gandhi

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RESEARCH INTERESTS

Distributed Data Processing Abstractions and Frameworks, Databases, and Systems Infrastructure for Machine Learning

EDUCATION

Indian Institute of Science, Bangalore Aug 2017 – Jan 2020
M.Tech (Research), Department of Computational and Data Sciences (CDS)
Thesis: Distributed Programming Abstraction for Scalable Processing of Temporal Graphs
Advisor: Prof. Yogesh Simmhan

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

INDUSTRY EXPERIENCE

Research Intern, Microsoft Research India Sep 2020 – Mar 2021
Worked with Anand Iyer on systems that enable efficient machine learning over large graphs.

Research Intern, Microsoft Research India Mar 2020 – Aug 2020
Worked with Bhargav Gulavani and Karthik Ramachandra on investigating and overcoming performance regressions in scalar UDF inlined queries. My work was later incorporated in SQL Server.

Operations Engineer, PubMatic India Jun 2014 – Jul 2016
Worked on reporting and ad-hoc data processing pipeline using combination of Apache Spark, Storm, Hadoop, Hive, and Pig Latin.

Research Intern, TATA Research Development and Design Centre India Sep 2013 – Apr 2014
Worked with Prasad Bokil, Ulka Shrotri, and R. Venkatesh on investigating and prototyping Mutation Testing Tool for C Programs.

PUBLICATIONS

[Papers & Posters available here.]

CONFERENCES

[1] S. Gandhi, and A. Iyer, "P3: Distributed Deep Graph Learning at Scale", (To appear in) 15th USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2021.

[2] S. Gandhi, and Y. Simmhan, "An Interval-centric Model for Distributed Computing over Temporal Graphs", 2020 IEEE 36th International Conference on Data Engineering (ICDE), Dallas, Texas.

POSTERS

[1] S. 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 (SOSP), Ontario, Canada, Oct 2019.

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

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 For "Distributed Querying over Compressed Property Graphs".	Dec 2017
	Department Honors, Bharati Vidyapeeth, Pune For outstanding academic performance (Batch 2010 – 2014).	Jun 2014
	TCS Popular Student Project, Bharati Vidyapeeth, Pune For "Mutation Testing Tool for C Programs", Bachelors dissertation.	May 2014
	Best Undergraduate Project Award, TRDDC Annual Students Day, Pune For "Mutation Testing Tool for C Programs", Bachelors dissertation.	Apr 2014
SERVICE & LEADERSHIP	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 & LECTURES	DS 256: Scalable Systems for Data Science, IISc Graduate Teaching Assistant for DS 256. Handled weekly discussion sections, homework assignments and helped with class projects (≈ 10 students).	Jan 2019
	E0 261: Database Management Systems, IISc Covered lecture on Google's Spanner and Apache Giraph. (≈ 30 students).	Oct 2018
TECHNICAL SKILLS	*Languages:* C/C++, Java, Python *Data Platforms:* Spark, Hadoop, Giraph, Hive *ML Tools:* PyTorch, TensorFlow	
REFERENCES	Available upon request.	

[*CV compiled on 2021-05-20*]