

# 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)
- Advisor: Prof. Yogesh Simmhan
- Thesis : Distributed Programming Abstraction for Scalable Processing of Temporal Graphs
- CGPA: 9.2 / 10.0 (Ranked 1<sup>st</sup>)  
Selected coursework: Scalable Systems for Data Science, Topics in Database Systems, Database Management Systems, Linear Algebra and Applications, Introduction to Scalable Systems.

### Bharati Vidyapeeth, Pune

Jul 2010 – Jun 2014

- B.Tech in Computer Engineering  
Department Honors and Gold Medalist
- Thesis : Mutation Testing Tool for C Programs  
Carried out at TATA Research Development and Design Centre (TRDDC), India

## WORK EXPERIENCE

### Research Intern, Microsoft Research, India

Sep 2020 – Present

- I currently work with Dr. Anand Iyer on systems that enable efficient machine learning over large graphs.

### Research Intern, Microsoft Research, India

Mar 2020 – Aug 2020

- Worked with Dr. Bhargav Gulavani and Dr. Karthik Ramachandra on overcoming performance regressions in scalar UDF inlined queries in SQL Server.

### Operations Engineer, PubMatic, India

Jun 2014 – Jul 2016

- Worked on reporting and ad-hoc data processing pipeline using Apache Spark, Storm, Hadoop, Hive, and Pig Latin.

### Research Intern, TATA Research Development and Design Centre, India

Sep 2013 – Apr 2014

- Worked under the mentorship of Prasad Bokil, Ulka Shrotri, and R. Venkatesh on building Mutation Testing Tool for C Programs.

## PUBLICATIONS

[Papers & Posters available [here](#).]

### CONFERENCES

- [1] [S. Gandhi](#), and Y. Simmhan, “An Interval-centric Model for Distributed Computing over Temporal Graphs”, 2020 IEEE 36<sup>th</sup> International Conference on Data Engineering (ICDE), Dallas, Texas.

### POSTERS

- [1] [S. Gandhi](#), “Wave : A Substrate for Distributed Incremental Graph Processing on Commodity Clusters”, 2<sup>nd</sup> ACM Student Research Competition (SRC) at 27<sup>th</sup> 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 24<sup>th</sup> IEEE International Conference on High Performance Computing, Data and Analytics (HiPC), Jaipur, India, Dec 2017.

## AWARDS & FELLOWSHIPS

- Selected to participate in The Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS) 2020, Saarbrücken, Germany Aug 2020
- Bronze Medal, 2<sup>nd</sup> ACM Student Research Competition (Graduate Category), at 27<sup>th</sup> Symposium on Operating Systems Principles (SOSP) in Ontario, Canada. Oct 2019
- Won 12<sup>th</sup> IEEE International TCSC Scalable Computing (SCALE) Challenge For “Dynamic Scaling of Video Analytics for Wide-area Tracking in Urban Spaces”. May 2019
- Best Poster Award, EECS Research Students Symposium, IISc Bangalore Apr 2019  
For “Distributed Processing Model For Temporal Graphs” at the 10<sup>th</sup> EECS Research Students Symposium.

	<ul style="list-style-type: none"> <li>▪ Invited to attend 3<sup>rd</sup> RIKEN R-CCS HPC Youth Workshop, Kobe, Japan</li> </ul>	Feb 2019
	<ul style="list-style-type: none"> <li>▪ Best Student Research Symposium Poster, IEEE HiPC, Jaipur, India For “Distributed Querying over Compressed Property Graphs”.</li> </ul>	Dec 2017
	<ul style="list-style-type: none"> <li>▪ Department Honors, Bharati Vidyapeeth, Pune For outstanding academic performance (Batch 2010 – 2014).</li> </ul>	Jun 2014
	<ul style="list-style-type: none"> <li>▪ TCS Popular Student Project, Bharati Vidyapeeth, Pune</li> </ul>	May 2014
	<ul style="list-style-type: none"> <li>▪ Best Undergraduate Project Award, TRDDC Annual Students Day, Pune For “Mutation Testing Tool for C Programs”.</li> </ul>	Apr 2014
<b>SERVICE &amp; LEADERSHIP</b>	<ul style="list-style-type: none"> <li>▪ Shadow PC Member, ACM EuroSys 2021</li> <li>▪ Artifact Evaluation Committee (AEC) Member, USENIX OSDI 2020</li> <li>▪ Artifact Evaluation Committee (AEC) Member, ACM ASPLOS 2020</li> <li>▪ Artifact Evaluation Committee (AEC) Member, ACM SOSP 2019</li> <li>▪ Treasurer and General Secretary for IISc ACM Student Chapter</li> <li>▪ Web Chair, Doctoral Symposium ICDCN 2019, Bangalore</li> </ul>	Oct 2020 Aug 2020 Dec 2019 Aug 2019 Apr 2019 – Mar 2020 Aug 2018
<b>TEACHING &amp; LECTURES</b>	<ul style="list-style-type: none"> <li>▪ Graduate Teaching Assistant, Indian Institute of Science TA for DS 256: Scalable Systems for Data Science with Prof. Yogesh Simmhan. Handled weekly discussion sections, homework assignments and helped with class projects (≈ 10 students).</li> <li>▪ E0 261: Database Management Systems Covered lecture on Google’s Spanner and Apache Giraph. (≈ 30 students).</li> </ul>	Jan 2019 Oct 2018
<b>SKILLS</b>	C++, JAVA, Python	
<b>REFERENCES</b>	Available upon request.	

[CV compiled on 2020-11-17]