Swapnil Gandhi

swwapnil.gandhi@gmail.com • https://swapnilgandhi.com/

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 1st)

  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
- 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 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 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 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 & FELLOWSHIPS

- 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 27th Symposium on Operating Systems Principles (SOSP) in Ontario, Canada. — Oct 2019
- 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, EECS Research Students Symposium, IISc Bangalore — Apr 2019

  For “Distributed Processing Model For Temporal Graphs” at the 10th EECS Research Students Symposium.
- 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
- Best Undergraduate Project Award, TRDDC Annual Students Day, Pune — Apr 2014
  For "Mutation Testing Tool for C Programs".

SERVICE & LEADERSHIP

- Artifact Evaluation Committee (AEC) member for OSDI 2020 — Aug 2020
- Artifact Evaluation Committee (AEC) member for ASPLOS 2020 — Dec 2019
- Artifact Evaluation Committee (AEC) member for SOSP 2019 — Aug 2019
- Treasurer and General Secretary for IISc ACM Student Chapter — Apr 2019 – Mar 2020
- Web Chair, Doctoral Symposium ICDCN 2019, Bangalore — Aug 2018

TEACHING & LECTURES

- Graduate Teaching Assistant, Indian Institute of Science — Jan 2019
  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).
- E0 261: Database Management Systems — Oct 2018
  Covered lecture on Google's Spanner and Apache Giraph. (≈ 30 students).

SKILLS C++, CUDA C, JAVA, Python

TRAVEL GRANTS SOSP'19, HiPC'19, COMAD'19, HiPC'18, HiPC'17

REFERENCES Available upon request.

[*CV compiled on 2020-09-20*]