# Siddharth D Jaiswal

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## Education

- **Indian Institute of Technology, Kharagpur, India** — **Prime Minister's Research Fellowship Awardee**
  Ph.D in Computer Science and Engineering; GPA: 9.5/10 — Jan. 2021 – Current

- **Indian Institute of Science, Bengaluru, India** — **Microsoft Data Science Fellowship Awardee**
  Master of Technology(Research) in Computational & Data Science — Aug. 2017 – Jan. 2020

## Work Experience

- **Huawei Technologies India Pvt. Ltd., Bengaluru, Karnataka**
  Technical Project Leader; Cloud & AI Business Line — March 2020 – January 2021
  - Developed query optimization features for the openLookeng data virtualization engine (open-source).

## Completed Projects

- **Ph.D Thesis** — Dept. of CSE, IIT, Kharagpur
  Evaluation of Bias in various Human-AI Systems against minority stakeholders — Jan. 2021 – Current
  - Evaluation of intersectional bias in Face Recognition Systems under adversarial conditions.
  - Evaluation of bias in visual search by e-commerce platforms for non-binary clothing.
  - Evaluation of bias against third-party sellers on e-commerce platforms.
  - Evaluation of bias by text-based author gender predictors against non-binary individuals.

- **M.Tech(Research) Thesis** — Dept. of CDS, IISc, Bengaluru
  Streaming Partitioning and Distributed Analytics on Large Graphs — Aug. 2017 – Jan. 2020
  - Developed partitioning heuristics for large streaming graphs with over 130M edges using topological motifs which perform 9X better than the baseline strategies.
  - Developed a partition-centric distributed algorithm to identify the Eulerian circuit on large graphs with over 500M edges.

- **Course Mini Projects**
  - Delayed Impacts of the Gender Shades Project — Dept. of CSE, IIT, Kharagpur
    - Evaluation of Intersectional Bias across ethnicity, gender, age and other dimensions in commercial Face Detection APIs over multiple face image datasets.
  - Development of a miniature Inception network — Dept. of CSE, IIT, Kharagpur
    - Development, training and evaluation of accuracy for a small inception network for the CIFAR-10 Image dataset.
  - Vertex-Centric Path Identification Algorithm — Dept. of CDS, IISc, Bengaluru
    - Development of a vertex-centric variant of Minimal On-Road Time Route Scheduling algorithm on Time-Dependent Graphs and implementation on Apache Giraph.

## Publications

- **A History of Diversity in the Web (Conference)**
  Accepted for publication at The WebConference 2023 (History of the Web Special Track)
- **Marching with the Pink Parade: Evaluating Visual Search Recommendations for Non-binary Clothing Items**
  Published at ACM CHI 2022 (Case Studies) — New Orleans, USA & Hybrid
- **Two-Face: Adversarial Audit of Commercial Face Recognition Systems**
  Published at AAAI ICWSM 2022 — Atlanta, USA & Hybrid
- **Platform Governance: Past, Present and Future**
  Published in GetMobile: Mobile Computing and Communications 26 (1) 2022
- **A Partition-centric Distributed Algorithm for Identifying Euler Circuits in Large Graphs**
  Published at HPBDC 2019, co-located with IPDPS 2019 — Rio de Janeiro, Brazil

## Relevant Coursework

**Indian Institute of Technology**
- AI & Ethics
- Deep Learning
- High Performance Scientific Computing

**Indian Institute of Science**
- Scalable Systems for Data Science
- Game Theory
- Introduction to Scalable Systems

## Programming Skills

- **Languages**: Python, Java, C++ **Libraries**: Scikit-learn, Numpy, Scipy, Pytorch, Matplotlib

## Research Internships

- **Online Algorithms for Facility Location Problem** ACMU, Indian Statistical Institute, Kolkata
  June 2015 – July 2015
  - Development of an Online Algorithm for placing a new server amongst an existing configuration of servers and customers given certain constraints. A conjecture and an algorithm are suggested based on observations of some test cases.
- **Approximation Algorithms for DVRP on Trees** ACMU, Indian Statistical Institute, Kolkata
  December 2014
  - Development of an approximation bound for Distance Constrained Vehicle Routing Problem on trees. Also proved that the Distance Constrained Vehicle Routing Problem on a Tree is NP Complete.

## Achievements and Fellowship

- Attended Google Research Week by Google Research India, 2023, Bengaluru, India
- Attended the AI Ethics and Governance (Turing Commons) Training by The Alan Turing Institute, 2022, Online
- Awarded the Prime Minister's Research Fellowship (PMRF) by Ministry of Education, Govt. of India, for the duration of Doctoral Studies in December 2021 selection cycle
- Attended the 1st Greek ACM-W Chapter Winter School on Fairness in AI, 2022, Online
- Presented a poster, "STEM: STreaming Edge Partitioner based on Motifs" at the 2nd R-CCS International Symposium, 2020, RIKEN Centre for Computational Science, Kobe, Japan
- Attended the 4th R-CCS HPC Youth Workshop, 2020, RIKEN Centre for Computational Science, Kobe, Japan
- Presented a poster, "Incremental Algorithms for PageRank and k-core on Dynamic Graphs" at Student Research Symposium, HiPC 2017, Jaipur, India
- Awarded the Microsoft Data Science Fellowship 2017 by Microsoft India, for the duration of 2017-19 instituted at Dept. of CDS, IISc, Bengaluru
- Secured AIR 24 in JEST 2017

## Extracurricular Activities

- Teaching Assistant(Jan-Apr 2023), CS60016: AI & Ethics, Dept. of CSE, IIT, Kharagpur
- Teaching Assistant(Nov 2022-Jan 2023), CS10003: Programming and Data Structures, Dept. of CSE, IIT, Kharagpur
- Teaching Assistant(Jan-Apr 2022), CS60016: AI & Ethics, Dept. of CSE, IIT, Kharagpur
- Teaching Assistant(Aug-Nov 2021), CS29003: Algorithms Lab, Dept. of CSE, IIT, Kharagpur
- Teaching Assistant(Mar-June 2021), CS19003: Programming and Data Structures Lab, Dept. of CSE, IIT, Kharagpur
- Teaching Assistant(Aug-Dec 2019), DS221: Introduction to Scalable Systems, Dept. of CDS, IISc, Bengaluru
- Student Volunteer- ACM FAccT (2021, 2022), ACM CSCW (2021, 2022), NeurIPS 2021, WWW 2022
- Student Member, ACM & SIGCHI
- Student General Secretary, IEEE Student Branch Chapter, Tezpur Central University
- Organizer of TEDxTezpurUniversity held in April, 2014.

I declare that all the information provided above is true to my knowledge. References can be provided on request.