Dr. Sagar Joglekar

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EDUCATION

- **Ph.D, Computer Science**
  King's College, London, UK, 2019
- **Masters of Science, Electrical and Computer Engineering**
  University of California, Santa Barbara , CA , USA, February 2012
- **Bachelors of Engineering, Electronics Engineering**
  University of Pune, India, May 2008

VISION

Evolve into the role of a leader that could bridge the gap between business and impactful technology. Drive maximal impact and innovation through synergy with research.

INTERESTS

Representation learning, Computer vision, Complex networks, Computational user behaviour modelling, Natural language processing, Practical A.I.

PROFESSIONAL EXPERIENCE

Research Scientist, Nokia Bell Labs, Cambridge, UK 06/2019 – Present

As a member of the Bell Labs Social dynamics team, I work with ideas that try to redefine our relationship with data. My role primarily spans two dimensions:

- **External impact** I develop methods and frameworks which could help us quantify real social phenomena using large scale data, tools from statistics, Natural language processing, deep learning, and networks science. Most problems that I deal with belong to the fields of social dynamics and urban informatics. For example, building models that can predict health outcomes at spatial scales using social media data, or quantification of intangible concepts like urban aesthetics and gentrification, from images of physical urban spaces. The work is expected to be communicated externally through scientific publications, journal articles, and public talks.
- **Internal impact** I develop solutions for data processing, sensing, and sense-making problems covering a wide range of applications inside Nokia's internal ecosystem. The work generally entails design and development of Proof of Concept (PoC) prototypes using scalable technology stack and solutions that incorporates cutting edge research outputs from academia and the team. These prototypes are generally deployed for internal use.

Ph.D. Fellow, King's College London, UK 09/2015 – 09/2019

My research at King's dealt with developing new methods for quantifying the intangible human processes from web scale data. I developed new methods and metrics in the fields of complex networks, machine learning, and computer vision, which provided a descriptive and predictive approach for quantifying these intangible processes. The outcome was a set of published papers on understanding the measurement of the

subjective human perceptions – like the sense of beauty, safety and emotional support – from large scale data.

Research Intern, Nokia Bell Labs, Cambridge, UK 06/2017 – 11/2017

As a part of my summer Internship at Bell labs, I worked on explainable and visualizable deep learning models for quantifying the perception of intangible attributes like beauty, safety and liveliness.

Head of Research, Firedrop.ai, London, UK 05/2016 – 06/2017

I conducted research in order to understand feasibility of different machine learning algorithms for Firedrop products. I helped the team adopt advanced machine learning research into systems that solve optimization problems. The end goal was always to provide most value to the customers by augmenting different creative processes in packaging design, website design, asset indexing and more.

Data science consultant, HackMasters, London, UK 03/2016 – 05/2019

I consulted HackMasters in the capacity of a data scientist/engineer on projects that covered areas of data governance, data driven strategy, or designing/prototyping Machine Learning driven systems for their clients. Some of their clients included government enterprises, large consultancy firms, or large FMCG firms.

Senior Software Engineer, Citrix Systems, Santa Barbara, U.S.A 02/2012 – 09/2015

My job at Citrix dealt with design and implementation of proprietary communications stack and platform libraries for Android, iOS and the web. As a team we work on implementing Citrix's client side network communications platform code. Some of the salient projects I have contributed to are as follows:

- I was a major contributor in design and development of the communications platform for our newly launched GotoMeeting web client. I designed and implemented a brand new protocol for bandwidth and computationally efficient screen sharing on HTML5 and mobile.
- Develop platform communications stack for iOS that presents an API for products to exercise and communicate with Citrix infrastructure. The platform is currently used in Citrix SaaS products like Convoi, Talkboard and GotoAssist, for audio and screen sharing media communications.
- As a part of Citrix hack-week 2013, I along with two other hackers came up with an idea to hack GotoAssist mobile endpoints and add camera stream sharing and annotations with Audio communication. This morphed the existing GoToAssist product into a tool to support real world use cases. The feature has now been incorporated and marketed as GotoSeeit

Engineering Intern, Citrix Systems, Santa Barbara, U.S.A 06/2011 – 12/2011

My internship dealt with porting and modification of proprietary runtime communication libraries and automated testing frameworks for Android.

Systems and Bio-imaging Lab, Santa Barbara, U.S.A 01/2011 – 06/2011

As a graduate student researcher, I worked on research and development of a system

to incorporate HDR imaging in biological fluorescent microscopy. This project was part of my research at Systems and Bio-Imaging Lab at UCSB. The main aim of this project is to enable High Dynamic Range microscopy for dynamic samples.

Research Engineer, Infosys Research Labs, Pune, India 07/2008 – 07/2010

My job dealt with research and development of algorithmic solutions, exploring possibilities and conducting research in Digital Convergence. One of my major responsibilities was research, design and development of some intellectual properties and solutions that involve Computer vision based algorithms

SELECTED PUBLICATIONS

Conference

- Agarwal, P., **Joglekar, S.**, Garimella, K., Sastry, N , Tyson, G. (2020, March). Characterizing User Content on a Multi-lingual Social Network, ICWSM 2020
- Agarwal, P., **Joglekar, S.**, Papadopoulos, P., Sastry, N , Kourtellis, N. (2020, January). Stop Tracking Me Bro! Differential Tracking Of User Demographics On Hyper-partisan Websites, WWW 2020
- Raman, A., **Joglekar, S.**, Sastry, N., Cristofaro, E , Tyson, G. (2018, November). Challenges in the Decentralised Web: The Mastodon Case Sigcomm IMC 2019
- Bhatt, S., **Joglekar, S.**, Bano, S., & Sastry, N. (2018, April). Illuminating an Ecosystem of Partisan Websites. In Companion of the The Web Conference 2018 on The Web Conference 2018 (pp. 545-554). International World Wide Web Conferences Steering Committee.
- **Joglekar, S.**, Sastry, N., & Redi, M. (2017, September). Like at First Sight: Understanding User Engagement with the World of Microvideos. In International Conference on Social Informatics (pp. 237-256). Springer, Cham.
- **Joglekar, S. P.** , *Narang, A., Dhanapal, K. B., & Somasundara, A. A. (2011, December). A novel way of tracking people in an indoor area. In International Conference on Advanced Computing, Networking and Security (pp. 85-94). Springer, Berlin, Heidelberg.

Journal

- **Joglekar, S.**, Quercia, D., Redi, M., Aiello, L. M., Kauer, T., & Sastry, N. (2020). FaceLift: a transparent deep learning framework to beautify urban scenes. Royal Society Open Science, 7(1), 190987.
- Tobias, K., **Sagar , J.**, Luca ,A., Daniele , Q., & Miriam, R. Mapping and Visualizing Urban Beautification, IEEE Computer Graphics and Applications
- **Sagar, J.**, Sastry, N., Neil, C., Taylor, S. J., Patel, A., Duschinsky, R., & Panzarasa, P. (2018). How Online Communities of People With Long-Term Conditions Function and Evolve: Network Analysis of the Structure and Dynamics of the Asthma UK and British Lung Foundation Online Communities. JMIR.
- **Joglekar, S**, Varadharajan, V., Nair R., Nallusamy, R., & Paul, S. (2014). Robust transcoding resistant watermarking for H. 264 standard. Multimedia tools and applications, 73(2), 763-778.

- Vijayaraghavan, V., **Joglekar, S. P.**, Nallusamy, R., & Paul, S. (2010). Transcoding resistant robust watermarking technique using entropy-based selective spread spectrum. International Journal of Multimedia Intelligence and Security, 1(4), 350-362.

PATENTS

- Varadharajan, V., **Joglekar, S.**, Nallusamy, R., & Paul, S. (2014). U.S. Patent No. 8,885,871. Washington, DC: U.S. Patent and Trademark Office.
- Dhanapal, K. B., Somasundara, A. A., **Joglekar, S. P.**, Narang, A., & Paul, S. (2011). U.S. Patent Application No. 12/895,027.

ENGINEERING TOOLS

- Programming languages: Python , Java , C++ , Javascript
- Graph mining: GiRaph , NetworkX , Gephi , Spark
- Machine Learning frameworks: Pytorch, Caffe, Scikit-Learn
- Back-end: Nodejs , Django, Flask, Mongodb

GRANTS & AWARDS

- **King's India Scholarship**
  My Ph.D. was supported by this award. King's graduate school awards this scholarship to one Indian citizen every year, to pursue scientific research.
- **Connected nations Pioneers-Finalist**
  My work on Deep learning driven urban beautification, done with Bell labs UK, was among the top 16 projects selected across the UK for this prize (2018). The project is in the top 4 in the Creative computing category[1].
- **Nvidia GPU grant**
  Wrote and received the Nvidia GPU grant that awards a better compute infrastructure to facilitate deep learning research.

[1] https://epsrc.ukri.org/newsevents/news/connectednationpioneersfinalists/