Siddarth Asokan

No. 21, 3rd Main, 2nd Cross, MSH Layout 2nd Stage
Anandnagar, Bengaluru - 560024, Karnataka, India
Contact: +91 98808-90383
Email: siddartha@iisc.ac.in, siddarth.asokan@gmail.com | Website | GitHub

ACADEMIC BACKGROUND	***Doctor of Philosophy (Ph.D.)*** ***(Thesis Submitted:** May 10th, 2023)* Robert Bosch Center for Cyber-Physical Systems (RBCCPS) Indian Institute of Science (IISc.), Bengaluru	*2017 − (2023)* GPA: 9.80/10

- ◎ **Supervisor:** Prof. Chandra Sekhar Seelamantula
- ◎ **Areas of research:** Generative modeling, Generative adversarial networks, Langevin diffusion models, High-dimensional Interpolation, Variational Calculus, Fourier analysis
- ◎ **Thesis:** On the Optimality of Generative Adversarial Networks — A Variational Perspective
- ◎ Will also be awarded Masters of Technology (M. Tech.) (Research) Degree
- ◎ **Selected coursework:** Linear and Non-linear Optimization, Image Processing, Pattern Recognition, Reinforcement Learning, Autonomous Navigation, Stochastic Approximation Algorithms

	Bachelor of Engineering (B.E.) *(Electronics and Communication Engineering)* M. S. Ramaiah Institute of Technology (MSRIT), Bengaluru,	*2013 − 2017* GPA: 9.98/10

- ◎ **Thesis:** Smart Parking and Surveillance
- ◎ **Rank**: University 1st Rank, Gold Medal

INTERNSHIP	*B.E. Project Intern* Robert Bosch Center for Cyber-Physical Systems, IISc. Bangalore	2016 − 2017

- ◎ **Project title:** Image Processing and Networking for Smart City Applications
- ◎ **Supervisors:** Prof. Bharadwaj Amrutur and Dr. Abhay Sharma

ACCOLADES

Fellowships

◎ Winner – Qualcomm Innovation Felowship	2022
◎ Winner – RBCCPS Ph.D. Fellowship	2021
◎ Winner – Qualcomm Innovation Felowship	2021
◎ Winner – RBCCPS Ph.D. Fellowship	2020
◎ Finalist – Qualcomm Innovation Felowship	2020
◎ Winner – Qualcomm Innovation Felowship	2019
◎ Winner – Microsoft Research (MSR) Ph.D. Fellowship	2018

Awards

◎ Best Presenter – 14th IISc EECS Symposium – AI/ML Track	2023
◎ Gold Medal – B.E. (Highest Cumulative GPA - MSRIT, Class of 2017)	2017
◎ Runners up – Best Project (MSRIT, Class of 2017)	2017
◎ Runners up – Ideathon (IISc – MSRIT Symposium on Smart Cities)	2017

TEACHING *Teaching Assistant at IISc.*
- E9-241 – Digital Image Processing August-December 2019
- E9-241(O) – Digital Image Processing (Online) August-December 2022

SKILLS *Programming Languages and Libraries*
- Python: *NumPy, SciPy, TensorFlow (1.0 and 2.0), Keras, PyTorch,*
- Others: C, C++, MATLAB

Documentation
- LaTeX
- Markdown

PUBLICATIONS *Journal Publications*

1. **S. Asokan** and C. S. Seelamantula, "Data Interpolants – That?s What Discriminators in Higher-order Gradient-regularized GANs Are", ***under review at the Transactions on Machine Learning Research (TMLR)***.

2. **S. Asokan** and C. S. Seelamantula, "Euler-Lagrange Analysis of Generative Adversarial Networks", *Journal of Machine Learning Research **(JMLR)***, 1–100, 2023

Conference Articles

1. **S. Asokan**, N. Shetty, A.Srikanth and C. S. Seelamantula, "GANs Settle Scores!", ***under review*** *In Advances in Neural Information Processing Systems **(NeurIPS) 2023***

2. **S. Asokan** and C. S. Seelamantula, "Spider GAN: Leveraging Friendly Neighbors to Accelerate GAN Training", *In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition **(CVPR) 2023***, Vancouver, Canada (Link)

3. **S. Asokan**, F. S. Mohammed and C. S. Seelamantula, "A Game of Snakes and GANs", *In Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing **(ICASSP) 2023***, Rhodes Island, Greece **(Oral Presentation)** (Link)

4. **S. Asokan** and C. S. Seelamantula, "LSGANs with gradient regularizers are smooth high-dimensional interpolators", *In Proceedings on "INTERPOLATE: First Workshop on Interpolation and Beyond" at **NeurIPS Workshops 2022***, New Orleans, United States of America (Link)

5. **S. Asokan** and C. S. Seelamantula, "Bridging the Gap Between Coulomb GAN and Gradient-regularized WGAN", *In Proceedings on "The Symbiosis of Deep Learning and Differential Equations (DLDE) - II" at **NeurIPS Workshops 2022***, New Orleans, United States of America (**Spotlight Presentation**) (Link)

6. **S. Asokan** and C. S. Seelamantula, "Teaching a GAN What Not to Learn', *In Advances in Neural Information Processing Systems **(NeurIPS) 2020***, Vancouver, Canada (Link)

PROFESSIONAL ACTIVITIES *Invited Talks*

1. **S. Asokan** and C. S. Seelamantula, "Teaching a GAN What Not to Learn", *The ACM India Joint International Conference on Data Science and Management of Data (CODS-COMAD), Premier Paper Track, 2021*

Refereed Publications

- ⊚ International Conference on Machine Learning (ICML)   2021 – present
- ⊚ Adv. in Neural Information Processing Systems (NeurIPS)   2021 – present
- ⊚ Intl. Conf. on Acoustics, Speech, Signal Processing (ICASSP)   2021 – present
- ⊚ International Conference on Image Processing. (ICIP)   2019, 2020

REFEREES

- ⊚ *Prof. Chandra Sekhar Seelamantula*
  Professor, Department of Electrical Engineering, IISc.
  `css@iisc.ac.in`
- ⊚ *Prof. Bharadwaj Amrutur*
  Chair, Robert Bosch Center for Cyber-Physical Systems, IISc.
  Professor, Department of Electrical Communication Engineering, IISc.
  `amrutur@iisc.ac.in`