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.)***	*2017 – (2023)*
	***(Thesis Submitted:** May 10th, 2023)*	GPA: 9.80/10

Robert Bosch Center for Cyber-Physical Systems (RBCCPS)
Indian Institute of Science (IISc.), Bengaluru

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

Bachelor of Engineering (B.E.)	*2013 – 2017*
(Electronics and Communication Engineering)	GPA: 9.98/10

M. S. Ramaiah Institute of Technology (MSRIT), Bengaluru,

- ◉ **Rank**: University 1st Rank, Gold Medal
- ◉ **Project title:** Smart Parking and Surveillance
- ◉ **Selected coursework:** Linear Algebra, Probability Theory, Numerical Methods, Signals and Systems, Digital Signal Processing, Information Theory, Image Processing

INTERNSHIP	***B.E. Project Intern***	2016 – 2017

Robert Bosch Center for Cyber-Physical Systems, IISc. Bangalore

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

ACCOLADES   *Fellowships*

- ◉ Winner – Qualcomm Innovation Fellowship (All India, competitive) 2022
- ◉ Winner – RBCCPS Ph.D. Fellowship (Within IISc, competitive) 2021
- ◉ Winner – Qualcomm Innovation Fellowship (All India, competitive) 2021
- ◉ Winner – RBCCPS Ph.D. Fellowship (Within IISc, competitive) 2020
- ◉ Finalist – Qualcomm Innovation Fellowship (All India, competitive) 2020
- ◉ Winner – Qualcomm Innovation Fellowship (All India, competitive) 2019
- ◉ Winner – Microsoft Research Ph.D. Fellowship (Within IISc, selective) 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
- ◎ College 2nd Rank – M.E.S. Pre-university College (State 10th Rank)   2013
- ◎ School 1st Rank – Poorna Prajna Education Center (State 11th Rank)   2011

SKILLS

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

Documentation
- ◎ LaTeX
- ◎ Markdown

PUBLICATIONS

Google Scholar

Journal Publications

2. **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)**.

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

Conference Articles

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

5. **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)

4. **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)

3. **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)

2. **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)

1. **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

- ◎ Transactions on Machine Learning Research (TMLR)   2022 – present
- ◎ International Conference on Machine Learning (ICML)   2021 – present
- ◎ Advances in Neural Information Processing Systems (NeurIPS) 2021 – present
- ◎ Intl. Conf. on Acoustics, Speech, Signal Processing (ICASSP)   2021 – present
- ◎ Transactions on Image Processing (TIP)   2019 – present
- ◎ International Conference on Image Processing. (ICIP)   2019, 2020

TEACHING

Teaching Assistant at IISc.

- ◎ E9-241 – Digital Image Processing   August-December 2019
- ◎ E9-241(O) – Digital Image Processing (Online)   August-December 2022

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`