

# 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](mailto:siddartha@iisc.ac.in), [siddarth.asokan@gmail.com](mailto:siddarth.asokan@gmail.com) | [Website](#) | [GitHub](#)

|                        |  |                     |
|------------------------|--|---------------------|
| ACADEMIC<br>BACKGROUND | <b><i>Doctor of Philosophy (Ph.D.)</i></b>   | 2017 – (2023)       |
|                        | ( <b><i>Thesis Submitted:</i></b> May 10th, 2023)<br><a href="#">Robert Bosch Center for Cyber-Physical Systems (RBCCPS)</a><br><a href="#">Indian Institute of Science (IISc.)</a> , Bengaluru  | <u>GPA: 9.80/10</u> |
|                        | <ul style="list-style-type: none"><li>⊙ <b>Thesis Title:</b> On the Optimality of Generative Adversarial Networks — A Variational Perspective</li><li>⊙ <b>Areas of research:</b> Generative modeling, Generative adversarial networks, Langevin diffusion models, High-dimensional Interpolation, Variational Calculus, Fourier analysis</li><li>⊙ Will be awarded Masters of Technology (M. Tech.) (Research) Degree along with the Ph.D. Degree.</li><li>⊙ <b>Supervisor:</b> <a href="#">Prof. Chandra Sekhar Seelamantula</a></li><li>⊙ <b>Selected coursework:</b> Linear and Non-linear Optimization, Image Processing, Pattern Recognition, Reinforcement Learning, Autonomous Navigation, Stochastic Approximation Algorithms</li></ul> |                     |
|                        | <b><i>Bachelor of Engineering (B.E.)</i></b>   | 2013 – 2017         |
|                        | ( <i>Electronics and Communication Engineering</i> )<br><a href="#">M. S. Ramaiah Institute of Technology (MSRIT)</a> , Bengaluru,   | <u>GPA: 9.98/10</u> |
|                        | <ul style="list-style-type: none"><li>⊙ <b>Rank:</b> University 1st Rank, Gold Medal</li><li>⊙ <b>Project Title:</b> Smart Parking and Surveillance</li><li>⊙ <b>Selected coursework:</b> Linear Algebra, Probability Theory, Numerical Methods, Signals and Systems, Digital Signal Processing, Information Theory, Image Processing</li></ul>  |                     |
|                        |  | <u>GPA: 9.98/10</u> |
| INTERNSHIP             | <i>B.E. Project Intern</i><br><a href="#">Robert Bosch Center for Cyber-Physical Systems</a> , IISc. Bangalore   | 2016 – 2017         |
|                        | <ul style="list-style-type: none"><li>⊙ <b>Project Title:</b> Image Processing and Networking for Smart City Applications</li><li>⊙ <b>Supervisors:</b> <a href="#">Prof. Bharadwaj Amrutur</a> and <a href="#">Dr. Abhay Sharma</a></li></ul>   |                     |
| ACCOLADES              | <i>Fellowships</i>   |                     |
|                        | ⊙ Winner – Qualcomm Innovation Fellowship (All India Competitive)  | 2022                |
|                        | ⊙ Winner – RBCCPS Ph.D. Fellowship (Institute Competitive)   | 2021                |
|                        | ⊙ Winner – Qualcomm Innovation Fellowship (All India Competitive)  | 2021                |
|                        | ⊙ Winner – RBCCPS Ph.D. Fellowship (Institute Competitive)   | 2020                |
|                        | ⊙ Finalist – Qualcomm Innovation Fellowship (All India Competitive)  | 2020                |
|                        | ⊙ Winner – Qualcomm Innovation Fellowship (All India Competitive)  | 2019                |
|                        | ⊙ Winner – Microsoft Research (MSR) Ph.D. Fellowship (Institute 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-level 10th Rank) 2013
- ⊙ School 1st Rank – [Poorna Prajna High School](#) (State-level 11th Rank) 2011

## SKILLS

### Programming Languages and Libraries

- ⊙ Python: *NumPy*, *SciPy*, *TensorFlow (1.0 and 2.0)*, *Keras*, *PyTorch*,
- ⊙ Others: C, C++, MATLAB

### Documentation

- ⊙  $\text{\LaTeX}$
- ⊙ Markdown

## PUBLICATIONS *Journal Publications*

[GOOGLE SCHOLAR](#)

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** *Invited Talks*

**ACTIVITIES**

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

**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`