Govinda Anantha Padmanabha

govinda.a1990@gmail.com | 574-400-9147 | linkedin.com/in/govinda-ai/ | Govinda7 | Fremont, CA

PROFESSIONAL SUMMARY

- 6+ years of experience in developing probabilistic deep learning and mathematical models for physical problems.
- Designed, validated, and reported results on AI-research projects that focuses on Bayesian networks / Bayesian inference, supervised and unsupervised learning techniques, and reinforcement learning.
- Extended existing Deep Learning frameworks for solving physical problems with limited data.
- Authored several high-impact scientific journals and conference papers.[Google Scholar Link]

PROFESSIONAL EXPERIENCE

Research Scientist July 2022 – June 2023
Noble Artificial Intelligence, Inc. San Francisco, CA

- Researched and Developed advanced deep learning models for physical systems
- Collaborated with other Research Scientists and Machine Learning Engineers at Noble Artificial Intelligence, Inc. on developing probabilistic deep learning and mathematical models

Graduate Research Assistant June 2017 – June 2022
Scientific Computing and Artificial Intelligence (SCAI) Lab, University of Notre Dame Notre Dame, IN
Thesis: Deep-Learning for forward and inverse solutions of physical systems.
Advisor: Prof. Nicholas Zabaras

- Developed an inverse surrogate model using ***generative models*** that maps noisy measurements at the sensor locations to the corresponding high-dimensional input field for a ***dynamic multiphase fluid flow problem***.
- Developed an explicit inverse design model that hinges on the concept of ***deep generative models*** for design of industrial gas turbine blades.
- Developed a hybrid framework for **image-to-image** regression high dimension problems by combining the ***multiscale method and a dense convolutional encoder-decoder network*** for solving a stochastic PDE and extended it by introducing a **Bayesian approach for uncertainty quantification and propagation.**

Teaching Assistant Fall 2018, Spring 2020, Spring 2021
University of Notre Dame Notre Dame, IN

- Statistical Computing Methods for Scientists & Engineers: Designed & graded assignments, and held office hours.
- Advanced Topics in Machine Learning: Prepared and taught Deep Learning modules (4 lecture classes): *Basics on neural network, Convolution Neural Network, object detection, time-series methods: Recurrent Neural Network, Long Short-Term Memory, Attention mechanism, and Transformers*

Research Assistant May 2014 – May 2017
Indian Institute of Science (IISc) Bangalore, India

- Developed surrogate-based multidisciplinary design optimization framework for Air-Breathing Engines.

EDUCATION

University of Notre Dame June 2022
Ph.D., Aerospace and Mechanical Engineering Notre Dame, IN

University of Notre Dame August 2020
M.S., Applied and Computational Mathematics and Statistics Notre Dame, IN

Vellore Institute of Technology May 2014
M.Tech., Mechanical Engineering (CAD/CAM) Chennai, India

TECHNICAL SKILLS

Computer Skills: Python, MATLAB.
DL/ML Tools: PyTorch, TensorFlow, Keras, Scikit-learn.