Sandeep Reddy Bukka

Scientist @TCOMS
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Education

Ph.D.| Data-Driven Computational Fluid Dynamics | National University of Singapore | 2020 | GPA: 4.33/5 |

B.Tech & M.tech (Dual Degree)| Ocean engg & Applied Mechanics | IIT Madras | 2015 | 8.21/10

Class XII
Narayana Jr College | 2012 | 96.3 %

Skills

Languages: python, Matlab, FORTRAN, Julia
Simulation : Ansys, FLUENT, STAR-CCM+, AVEVA Marine
Certifications: completed Deep learning and Tensorflow in practice specializations from coursera, EPAT-2020 @Quantinsti

Lead Positions

Resident assistant @ Utown residence
- In charge for around 60 to 70 students at graduate residence.
- Organized several events at graduate residence which include Welcome reception, Diwali night, UTR movie night, Acting 101 workshop, Art carnival
-Received outstanding RA award
-UTR welcome reception and UTR art carnival received best event awards.

Hospitality core @ SAARANG 2015
- One of the 23-member Core team of SAARANG*, budgeted at 10 million INR and above.
- Lead a team of 45 members which had a budget of around 0.3 million INR and turnover of 0.6 million INR.
- Reached the position of coreship in final year gradually from the stage of volunteer in first year.
SAARANG is Annual Cultural Festival of IIT Madras

Summary

Strong technical background with degree's from prestigious IIT Madras and NUS. Self-driven and innovative researcher with expertise in data-driven computational methods/A.I. models for various fluid mechanics applications and more than 6 years of experience in high level programming. It is my strong desire to build on this experience and create cutting-edge solutions at the intersection of data-driven science with the traditional physics-based methods.

Research and Work experience

Scientist
@TCOMS — Development of digital twin of deep water ocean basin
-Reconstruction of ocean wave field from instantaneous probe data using the concepts of compressed sensing
- Reduced order models for fast propagation of multi-directional ocean wave fields
- Data-driven models for reconstruction and propagation of multi-directional ocean wave fields

Research Scholar
@NUS — Data-driven computing for stability analysis and prediction of fluid-structure interaction
- Data-driven computing for stability analysis of passive suppression
- Hybrid reduced order model for fluid structure interaction
- Convolutional recurrent autoencoder networks for complete prediction of flow field.

Conferences & Publications

- Bukka, S. R., Gupta, R., Magee, A. R., Jaiman, R. K. (2021). Assessment of unsteady flow predictions using hybrid deep learning based reduced-order models. Physics of Fluids, 33(1), 013601
- Bukka, S. R., Magee, A. R., Jaiman, R. K. (2020). Stability analysis of passive suppression for vortex-induced vibration. Journal of Fluid Mechanics, 886.
- Bukka, S. R., Magee, A. R., and Jaiman, R. K. (2020). Deep Convolutional Recurrent Autoencoders for Flow Field Prediction. In OMAE 2020.
- Reddy, S. B., Magee, A. R., and Jaiman, R. K. (2019). Reduced order model for Unsteady fluid flows via Recurrent Neural Networks. In OMAE 2019 at Glasgow.
- Reddy, S. B., Magee, A. R., and Jaiman, R. K. (2018). A data-driven approach for the stability analysis of vortex- induced vibration. In OMAE 2018 at Madrid.

Scholastic Achievements

- All India Ranks: IIT-JEE 2887/0.5 million, AIEEE 2788/1 million, GATE 90 in Engineering Sciences Paper, EAMCET 3566/0.2 million (state level)

Extra Curricular Activities and Interests

- Runner up in basket-ball, volley ball and kho- kho games in school competitions
- Participated in three Half Marathons and a full Marathon in singapore.
- Taekwondo practitioner, currently at red belt
- Outdoor person with great affinity towards martial arts, driving, adventure sports, travel and fitness