VIGNESH SUBRAMANIAN

Senior Research Engineer, PlusAI Inc. | PhD University of California Berkeley

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WORK EXPERIENCE

PlusAI, Inc.

Senior Research Engineer Sept 2022 - Present

- Building deep learning models to tackle problems in the perception and prediction stack of autonomous driving

WorldQuant Research (India)

Quantitative Researcher July'15-July'17

- Built quantitative models for predicting future returns on financial assets by analyzing price volume data, analyst ratings and news reports
- Worked on optimal portfolio allocation problem using clustering and mean-variance convex optimization techniques

Plus, Cupertino

Machine Learning Internship May'21-Aug'21

- Implemented state of the art image based anchor-free object detection and tracking model in PyTorch

Graduate Student Instructor

Machine Learning Aug'20-Dec'20

Convex Optimization Jan-May'19, Jan-May'20

PUBLICATIONS

Journals

- Vidya Muthukumar, Adhyyan Narang, Vignesh Subramanian, Mikhail Belkin, Daniel Hsu, Anant Sahai "Classification vs regression in overparameterized regimes: Does the loss function matter?", Journal of Machine Learning Research (JMLR), 2020. (link)
- Vidya Muthukumar, Kailas Vodrahalli, Vignesh Subramanian, Anant Sahai, "Harmless interpolation of noisy data in regression", IEEE Journal on Selected Areas in Information Theory, Special Issue on Deep Learning: Mathematical Foundations and Applications to Information Science, 2019. (link)
- Anant Sahai, Joshua Sanz, Vignesh Subramanian, Caryn Tran, Kailas Vodrahalli, "Blind interactive learning of modulation schemes: Multi-agent cooperation without co-design", IEEE Access, Special Section: Artificial Intelligence for Physical-layer Wireless, 2019 (link)

Conference Proceedings

- Vignesh Subramanian, Rahul Arya, Anant Sahai, " Generalization for multiclass classification with overparameterized linear model", Advances in Neural Information Processing Systems (NeurIPS), 2022 (link)
- Vignesh Subramanian, Moses Won, Gireeja Ranade, "Learning a Neural-Network Controller for a Multiplicative Observation Noise System ", IEEE International Symposium on Information Theory (ISIT), 2020. (link)
- Vignesh Subramanian, Laura Brink, Nikunj Jain, Kailas Vodrahalli, Akhil Jalan, Nikhil Shinde, Anant Sahai, "Some new numeric results concerning the Witsenhausen Counterexample", 56th Annual Allerton Conference on Communication, Control, and Computing, 2018. (link)

EDUCATION

Doctor of Philosophy
Electrical Engineering and Computer Science

Grade Point Average – 4.0/4.0

Aug '17 – Aug '22 | UC Berkeley

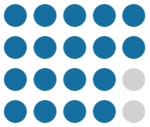
Master of Technology, Bachelor of Technology
Electrical Engineering

Cumulative Performance Index – 9.86/10.0
Minor – Computer Science & Engineering

July '10 – May '15 | IIT Bombay

PROGRAMMING SKILLS

Python
PyTorch
MATLAB
C++



RESEARCH INTERESTS

- Deep learning for perception and prediction in autonomous driving systems
- Applications of Machine Learning in Wireless Communication, Control
- Machine Learning Theory

COURSES

- Machine Learning, Deep Reinforcement Learning, Digital Signal Processing, Wireless Communication
- Probability and Stochastic Processes, Convex Optimization, Stochastic Control Systems, Information Theory, Theoretical Statistics

AWARDS

- (2017) Department Fellowship, EECS
- (2015) Institute Gold Medal, IIT Bombay
- (2015) Institute Silver Medal, IIT Bombay