Designed and implemented dynamic web services and sophisticated web pages using JSP, HTML, CSS, and JavaScript, ensuring responsive design and seamless user experience.

#### Ph.D. in Electrical Engineering 2021 M.S. IN ELECTRICAL ENGINEERING 2020 • Ph.D. Thesis: Waveform Synthesis for Active Sensing with Emerging Applications • Committee: Prof. Mojtaba Soltanalian, Prof. Dan Schonfeld, Prof. Daniela Tuninetti, Prof. Rashid Ansari, Dr. Perry Wang West Bengal University of Technology Kolkata, India **B.Tech. in Electronics and Communication Engineering** 2012

## **JOURNAL ARTICLES**

- J5 A. Bose, B. Tang, W. Huang, M. Soltanalian, and J. Li, Waveform Design for Mutual Interference Mitigation in Automotive Radar, arXiv preprint arXiv:2208.04398. Aug. 2022
- J4 A. Bose, B. Tang, M. Soltanalian, and J. Li, Mutual Interference Mitigation for Multiple Connected Automotive Radar Systems, in IEEE Transactions on Vehicular Technology, vol. 70, no. 10. Oct. 2021

🛿 (+1) 312-478-1131 | 🗖 adambose1990@gmail.com | 🏘 www.arindambose.com | 😨 arindam-bose | 🖬 arindam-bose-75425417

Washington DC, United States

indam **Bose** RADAD SIGNAL PROCESSING RESEARCHER

### Summary\_

Radar Systems Engineer with specialized expertise in imaging radar systems for drone detection and tracking applications. Proven experience in designing, developing, and optimizing radar signal processing algorithms for high-resolution imaging, target classification, and clutter suppression in complex environments. Strong background in MIMO radar, beamforming, Doppler processing, and real-time embedded implementation. Adept at designing and integrating radar hardware with advanced signal processing pipelines to enhance situational awareness in airborne and ground-based surveillance systems. Committed to advancing state-of-the-art drone detection technologies through innovative, reliable, and scalable radar solutions.

• Developing high-resolution imaging radar capable of detecting and tracking small UAVs, including low-flying or stationary

Building a full-stack radar signal processing toolchain, including digital system and FPGA firmware, along with radar data

# Professional Experience \_\_\_\_\_

**Research Intern, Radar Signal Processing** 

University of Illinois at Chicago

SENIOR RESEARCH ENGINEER, RADAR SIGNAL PROCESSING

drones, with on-the-move operation to locate launch sites and pursue threats.

Research Assistant, WaveOPT lab, Department of Electrical and Computer Engineering

visualization and UI software using Python, Verilog, Rust, and C.

#### **KMB** Telematics Inc.

ing overall performance and adaptability. Collaborated closely with Prof. M. Soltanalian on research in radar signal processing and optimization theory, contributing to ongoing studies and the development of my Ph.D. thesis. TEACHING ASSISTANT, DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING Aug. 2015 - May 2020 • Courses assisted: Digital signal processing, Statistical signal processing, Image analysis and computer vision. Mitsubishi Electric Research Laboratories Cambridge, MA, USA **Research Intern, Signal Processing Group** Summer 2018 Developed innovative techniques and efficient imaging algorithms for terahertz (THz) time-domain spectroscopy systems. **Cognizant Technology Solutions Pvt. Ltd.** Kolkata, India **PROGRAMMER ANALYST, HEALTH CARE PRACTICE** Apr. 2013 - Jul. 2014 · Designed, developed, and maintained multiple Java-based web applications, tailored to meet diverse client requirements and deliver scalable, high-performance solutions. Education\_\_\_\_\_ University of Illinois at Chicago Chicago, IL, USA

Selected Publications

Arindam Bose · Résumé

Chicago, IL, USA May 2016 - Dec. 2020 • Designed and implemented multiple efficient algorithms for transmit waveform synthesis in MIMO radar systems, enhanc-

Washington DC, USA

Oct. 2020 - Present

Summer 2019, 2020

J3	A. Bose, S. Khobahi, and M. Soltanalian, Efficient Waveform Covariance Matrix Design and Antenna S	election for
	MIMO Radar, in Signal Processing, vol 183.	Jun. 2021
J2	A. Ameri, A. Bose, J. Li, and M. Soltanalian, One-Bit Radar Processing With Time-Varying Sampling Th	resholds, in
	IEEE Transactions on Signal Processing, vol. 67, no. 20.	Oct. 2019
J1	A. Bose, M. Soltanalian, Constructing Binary Sequences With Good Correlation Properties: An Efficient	t Analytical-
	Computational Interplay, in IEEE Transactions on Signal Processing, vol. 66, no. 11.	Jun. 2018
Con	FERENCE PRESENTATIONS	
C13	Z. Esmaeilbeig, A. Bose, and M. Soltanalian, Ambiguity Function Shaping in FMCW Automotive Radar,	IEEE Asilomar
	Conference on Signals, Systems, and Computers 2023, Pacific Grove, CA.	Nov. 2023
C12	Z. Esmaeilbeig, A. Bose, and M. Soltanalian, Mutual Interference Mitigation in PMCW Automotive Radar,	IEEE European
	Microwave Week 2023, Berlin, Germany.	Sep. 2023
C11	S. Khobahi, A. Bose, and M. Soltanalian, Deep One-Bit Compressive Autoencoding, IEEE Statistical Signal Proce	ssing Workshop
	<i>2021</i> , Rio de Janeiro, Brazil.	Jul. 2021
C10	A. Bose, A. Ghauri, and M. Soltanalian, Limits of Transmit Beamforming for Massive MIMO Radar,	IEEE Asilomar
	Conference on Signals, Systems, and Computers 2020, Pacific Grove, CA.	Nov. 2020
C9	S. Khobahi, A. Bose, and M. Soltanalian, Deep Radar Waveform Design for Efficient Automotive Radar S	Sensing, IEEE
	Sensor Array and Multichannel Signal Processing Workshop 2020, Hangzhou, China.	Jun. 2020
C8	A. Bose, S. Khobahi, and M. Soltanalian, Joint Optimization of Waveform Covariance Matrix and Anten	na Selection
	for MIMO Radar, IEEE Asilomar Conference on Signals, Systems, and Computers 2019, Pacific Grove, CA.	Nov. 2019
C7	A. Bose, A. Ameri, and M. Soltanalian, Waveform Design for One-Bit Radar Systems Under Uncertain	nterference
	Statistics, IEEE Asilomar Conference on Signals, Systems, and Computers 2019, Pacific Grove, CA.	Nov. 2019
C6	P. Wang, T. Koike-Akino, A. Bose, R. Ma, P. Orlik, W. Tsujita, K. Sadamoto, H. Tsutada, and M. Soltanalian, Learning-Ba	ised Shadow
	Mitigation for Terahertz Multi-Layer Imaging, IEEE International Conference on Infrared, Millimeter, and Terahe	rtz Waves 2019,
	Paris, France.	Sep. 2019
C5	A. Bose, A. Kadu, H. Mansour, P. Wang, P. Boufounos, P. Orlik, and M. Soltanalian, THz Multi-Layer Imaging Vi	a Nonlinear
	Inverse Scattering, IEEE International Conference on Infrared, Millimeter, and Terahertz Waves 2019, Paris, France.	Sep. 2019
C4	I. A. Arriaga-Trejo, A. Bose, A. G. Orozco-Lugo, and M. Soltanalian, Design of Unimodular Sequence Sets with	h Good Cor-
	relation and Complementary Correlation Properties, IEEE Global Conference on Signal and Information F	Processing 2018,
	Anaheim, CA.	Nov. 2018
C3	A. Bose, I. A. Arriaga-Trejo, A. G. Orozco-Lugo, and M. Soltanalian, Generalized Cyclic Algorithms for Des	igning Uni-
	modular Sequence Sets with Good (Complementary) Correlation Properties, IEEE Sensor Array and Multichannel Sig-	
	nal Processing Workshop 2018, Sheffield, UK.	Jul. 2018
C2	A. Bose, N. Mohammadi and M. Soltanalian, Designing Signals with Good Correlation and Distribution	Properties,
	IEEE International Conference on Acoustics, Speech and Signal Processing 2018, Calgary, Alberta, Canada.	Apr. 2018
C1	A. Bose and M. Soltanalian, Efficient Construction of Polyphase Sequences With Optimal Peak Sid	lelobe Level
	Growth, IEEE Global Conference on Signal and Information Processing 2017, Montreal, Canada.	Nov. 2017
D		

#### BOOK CHAPTERS

 B1
 A. Bose, J. Li, and M. Soltanalian, One-Bit Cognitive Radar, Booktitle: Next Generation Cognitive Radar Systems, Editors: K. V.

 Mishra, B. Shankar, and M. Rangaswamy, IET Press.
 2023

### Patents

P1 P. Wang, T.-K. Akino, P. Orlik, A. Bose, Learning-Based See-Through Sensing Suitable for Factory Automation, US Patent and Trademark Office, Patent ID: US20210064013A1. 2019

### Honors & Awards

Signal Processing Society Chicago Chapter Appreciation, IEEE, Chicago, IL, USA	2019
Associate of the Month, Cognizant Technology Solutions, Kolkata, India	2014
Winner, The Telegraph Knowhow Innovation Hub, INFOCOM 10-11, Kolkata, India	2011
Special Prize, Science and Engineering Fair, Kolkata, India	2010 - 2013
Educational Scholarship, Central Government of India, Kolkata, India	2008 - 2012