

# Arindam Ghosh

412-853-3499

arindam.gm@gmail.com

www.linkedin.com/in/arndm-ghosh

- EDUCATION:** **Carnegie Mellon University**, Pittsburgh, USA Jan 2019 – Dec 2019
- MS, Electrical and Computer Engineering (finished the coursework in two semesters; normally takes three).
  - Focus: Machine Learning, Deep Learning, Speech Recognition, NLP, Probabilistic Graphical Models, Advanced Probability and Statistics.
- National Institute of Technology Durgapur**, Durgapur, India Jul 2009 – May 2013
- BTech, Electronics and Communication Engineering
- WORK EXPERIENCE:** **3M/Solventum Health**, Pittsburgh, USA Jun 2020 – present
- Research Scientist (Machine Learning for Speech and NLU)
- Focus: Self-supervised learning (SSL) for speech; transducer (RNN-T) based ASR models; end-to-end speaker/role-prediction ASR; confidence calibration of neural networks; low-resource low-footprint wake-word detection; summarization of doctor-patient conversations.
- Carnegie Mellon University**, Pittsburgh, USA Jan 2020 – May 2020
- Research Assistant (Prof. Ian Lane)
- Focus: Benchmarking performance of Kaldi and wav2letter recipes on the SwitchBoard corpus.
- Research Assistant (Prof. Osman Yagan) May 2019 – Aug 2019
- Focus: Time-series Forecasting for Personalized Product Promotions (ThaiBev Restaurants). Used ARIMA and LSTM based models for prediction of expected revenue from different coupons for a user.
- Centre for Development of Telecommunication**, Bangalore, India Aug 2013 – Dec 2018
- Senior Research Engineer
- Focus: Prediction of Wireless Network Coverage under Spatially Correlated Interference. Proposed the mixture-based mathematical framework for modeling correlated interference, and applied it to derive the outage probability of MRC receivers. Both works were published in the journal *IEEE Comm. Letters*
- PUBLICATIONS:** **Machine Learning:**
- **A. Ghosh**, T. Schaaf, and M. Gormley. “Adafoal: Calibration-aware adaptive focal loss.” *Advances in Neural Information Processing Systems* 35 (2022): 1583-1595.
  - **A. Ghosh**, M. Fuhs, D. Bagchi, B. Farahani, M. Woszczyna, (2022) Low-resource Low-footprint Wake-word Detection using Knowledge Distillation. *Proc. Interspeech 2022*, 3739-3743, doi: 10.21437/Interspeech.2022-529.
  - L. Zhang, R. Negrinho, **A. Ghosh**, V. Jagannathan, H. Hassanzadeh, T. Schaaf, and M. R. Gormley. “Leveraging Pretrained Models for Automatic Summarization of Doctor-Patient Conversations.” In *Findings of the Association for Computational Linguistics: EMNLP 2021*, pp. 3693-3712. 2021.
- Wireless Communication:**
- **A. Ghosh**, “Mixture-Based Modeling of Spatially Correlated Interference in a Poisson Field of Interferers,” in *IEEE Communication Letters*, Nov. 2017.
  - **A. Ghosh** and H. S. Dhillon, “Performance Analysis of MRC Under Spatially Correlated Interference Using Mixture-Based Method,” in *IEEE Communication Letters*, Nov. 2018.
  - **A. Ghosh**, G. Ghatak, and A. Chandra, “SEP of dual-ring star-QAM over FSO channels with atmospheric turbulence,” *IEEE International Conference SPCOM*, 2014.
  - **A. Ghosh**, J-W. Lee, and H-S. Cho, “Throughput and Energy Efficiency of a Cooperative Hybrid ARQ Protocol for Underwater Acoustic Sensor Networks,” *Sensors* 13, no. 11, Nov 2013.
- SKILLS:** **Programming:** Python, C++, Java, Matlab, Mathematica  
**ML/DL Tools:** PyTorch, Tensorflow, Kaldi, Espnet