Anisha Banerjee

Curriculum Vitae

Education

2021–
Ph.D. in Electrical and Computer Engineering, *Technical University of Munich*, Germany
- ○ Coding for Communications and Data Storage (Prof. Dr.-Ing. Antonia Wachter-Zeh)
- ○ Research interests: Coding for insertion and deletion errors, Sequence reconstruction, DNA data storage, Nanopore sequencing, Convolutional codes.

2018–2021
M.Sc in Communications Engineering, *Technical University of Munich*, Germany, *GPA − 1.0*
- ○ Master's Thesis: Sequential Decoding of Convolutional Codes for Insertion/Deletion Channels, Supervisor: M.Sc. Andreas Lenz, Chair: Coding for Communications and Data Storage (Prof. Dr.-Ing. Antonia Wachter-Zeh) Technical University of Munich

2014–2018
Bachelors in Electrical Engineering(First Class Honors), *Jadavpur University*, India, *GPA − 9.33 (1.4 German equivalent)*
- ○ Final project: Fuzzy sliding mode control- Implementation on an inverted pendulum on a cart system

Work Experience

Oct 2019-
Dec 2020
Scientific assistant, *Chair of Audio Information Processing*, Technical University of Munich, Germany
Tasks and projects:
- ○ Animation retargeting on 3D character models
- ○ Mesh modelling, editing and texturing
- ○ Mesh rendering and animations for Unreal Engine

Apr- July
2019
Working student, TWAICE GmbH, Munich, Germany
Tasks and projects:
- ○ Determination of cell parameters from experimental data
- ○ Processing and de-noising of measured signals

Teaching Assistance

SS24, SS25
Coding Theory for Storage and Networks

SS23
Advanced Topics in Communications Systems: Processes with Applications to Communications and Machine Learning

WS21/22,
WS22/23
Channel Coding

Awards & Recognitions

2024	Best poster award at European School of Information Theory (ESIT), Eindhoven, The Netherlands
2022	Teaching Assistant Award at the "Tag der Fakultät" for assistance in Channel Coding
2021	Walter Gademann Master's Thesis Award of the TUM Department of Electrical and Computer Engineering
2019-20	Deutschlandstipendium/German National Scholarship
2018	Memorial award for securing 2nd rank in Dept. of Elec. Engg., Batch of '18, Jadavpur University, Kolkata, India
2017	Memorial award for highest score in 3rd year university examinations, Jadavpur University, Kolkata, India

Publications

2025	**Banerjee.A** , Con.R, Wachter-Zeh.A & Yaakobi.E,, "Decoding Insertions/Deletions via List Recovery", IEEE International Symposium on Information Theory (ISIT)
2025	**Banerjee.A** , Yehezkeally.Y, Wachter-Zeh.A & Yaakobi.E,, "Correcting Multiple SUbstitutions in Nanopore-Sequencing Reads", IEEE International Symposium on Information Theory (ISIT)
2025	**Banerjee.A** , Welter.L, Amat.AG, Wachter-Zeh.A & Rosnes.E, "Sequential Decoding of Multiple Traces Over the Syndrome Trellis for Synchronization Errors", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)
2024	**Banerjee.A** , Yehezkeally.Y, Wachter-Zeh.A & Yaakobi.E,, "Correcting a Single Deletion in Reads from a Nanopore Sequencer", IEEE International Symposium on Information Theory (ISIT)
2024	**Banerjee.A** , Lenz.A & Wachter-Zeh.A, "Sequential Decoding of Multiple Sequences for Synchronization Errors", IEEE Transactions on Communications
2024	**Banerjee.A** , Yehezkeally.Y, Wachter-Zeh.A & Yaakobi.E, "Error-Correcting Codes for Nanopore Sequencing", IEEE Transactions on Information Theory
2023	**Banerjee.A**, Wachter-Zeh.A ,& Yaakobi.E, "Insertion and Deletion Correction in Polymer-Based Data Storage", IEEE Transactions on Information Theory
2023	**Banerjee.A** , Yehezkeally.Y, Wachter-Zeh.A & Yaakobi.E, "Error-Correcting Codes for Nanopore Sequencing", IEEE International Symposium on Information Theory (ISIT)
2022	**Banerjee.A** , Lenz.A & Wachter-Zeh.A, "Sequential Decoding of Convolutional Codes for Synchronization Errors", IEEE Information Theory Workshop (ITW)
2022	**Banerjee.A**, Wachter-Zeh.A ,& Yaakobi.E, "Insertion and Deletion Correction in Polymer-based Data Storage", IEEE International Symposium on Information Theory (ISIT)

Invited Talks

2025 **Banerjee.A**, "Error Correction for Nanopore Sequencing", 6G-life and 6G-RIC Workshop on Post-Shannon Theory and Molecular Communication, Braunschweig, Germany

2023 Yehekeally.Y, Welter.L, & **Banerjee.A**, "Coding-theoretic Challenges for DNA-based Storage/Communication Systems", 6G-life Workshop on Molecular Communications, Munich, Germany