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Educational summary

- Ph.D. in Electrical Engineering (Completed) from National Institute of Technology Manipur - 2019 – 2026. Supervisor: Dr. Loitongbam Surajkumar Singh. Thesis: “Design and Development of a Multifunctional Miniature Device for Enhancing the Cognitive Abilities in Mentally Challenged Children using Brain Stimulations”
- M Tech in VLSI and Embedded System from National Institute of Technology Manipur - 2017 – 2019.
- B Tech in Electrical and Electronics Engineering from Jyothi Engineering College Cheruthuruthy, Kerala (APJ Abdul Kalam Technological University) - 2013 – 2017.
- B.Th. in Theology from Samanvaya College, Bhopal - 2019 – 2022.
- Diploma in Philosophy from Dharmaram College, Bangalore - 2010 – 2012.
- Plus Two, Computer Science from St. Aloysious Higher Secondary School, Elthuruth - 2006 – 2008.
- High School, SSLC from Don Bosco Higher Secondary School, Irinjalakuda - 2004 – 2005.

Employment History

- Assistant Professor, Department of Electrical and Electronics Engineering, Christ College of Engineering, Irinjalakuda, Thrissur
- Research Scholar, Department of Electrical Engineering, NIT Manipur - 2019 – 2026
- 6 months Internship at Atoll Solutions Pvt Ltd, Bangalore (2017)
- 3 months project research at National Brain Research Centre (NBRC), Delhi (2018 – 2019)
- 2 months project research at Saveetha Medical College, Chennai (2018)

Specialized trainings

- PCB design (Allegro PCB, OrCAD)
- C++
- Embedded C
- Instrumentation
- Neural signal acquisition and brain stimulation systems (DBS, ICMS, TMS)
- Biomedical signal processing and machine learning

Research Details

Patents

- Patent – Trans Callosal Signal Bypassing & Neuromodulating Brain-Machine Interface – No. 201941002416 – Granted, Sep 2020.
- Patent – Brain Stitcher: A Compact Wireless Telemetry System to Assess the Behaviour of the Rodents – No. 201841044368 – Published, Jan 2019.

Journal Articles

- Milner Vithayathil, Caren Babu, Suni Jose, et al. “Autism spectrum disorder identification using machine learning models on MRI data.” Scientific Reports, May 2026.
- Milner Vithayathil, Adarsh V. Parekkattil, Devika S. Kumar, Shuma Adhikari. “OGTCN-E-MGO: an optimized deep learning framework for EEG-based schizophrenia detection.” Physical and Engineering Sciences in Medicine, Jan 2026.
- Milner Vithayathil, et al. “A Multifunctional, Embedded-based, Bluetooth-enabled, Programmable, Biphasic-waveform Stimulator with Real-time Neural Signal Acquisition.” Journal of Visualized Experiments (JoVE), Sep 2025.
- Milner Vithayathil, Jijo Francis, Smriti Menon, Shuma Adhikari. “Development of a novel wireless telemetric brain stimulator for behavioral studies in rodents.” Ain Shams Engineering Journal, Feb 2025.
- Milner Paul, Shuma Adhikari, Loitongbam Surajkumar Singh, Adarsh V. Parekkattil, George Athappilly. “A novel technological system for enhancing learning capabilities of intellectually challenged children using electrical stimulations.” Journal of Intelligent & Fuzzy Systems, Vol. 46, Issue 1.
- Milner Vithayathil, T Jarin, SR Boselin Prabhu, George Athappilly, Milan Paul, Richard Ningthoujam, Loitongbam Surajkumar Singh. “Neural Proliferation Using Brain Stimulation Methods Intended for Pediatric Neuropsychiatric Population: A Hypothesis and Theoretical Study.” TEST Engineering and Management, Vol. 82(1), 2020, pp. 9138–9151.
- Milner Vithayathil, T Jarin, SR Boselin Prabhu, Richard Ningthoujam, Loitongbam Surajkumar Singh. “Designing and Modelling of a Low-Cost Wireless Telemetry System

for Deep Brain Stimulation Studies.” Indian Journal of Science and Technology (IJST), 12(8), 2019, pp. 1–13.

- Milner Vithayathil, Paulson Mekkattil, Binoy Velliyath, Jarin T. “Low-Cost Wireless Telemetry System for Deep Brain Stimulation.” IJSRR, Vol. 7, 2018, pp. 697–702.

Book Chapters

- Milner Paul V, et al. “Biomedical data visualization and clinical decision-making in rodents using a multi-usage wireless brain stimulator with a novel embedded design.” Predictive Modeling in Biomedical Data Mining and Analysis, Elsevier, 2022. (Chapter)
- Milner Vithayathil, T Jarin, SR Boselin Prabhu and T Ananth Kumar. “Critical Investigation and Prototype Study on Deep Brain Stimulations: An Application of Biomedical Engineering in Healthcare.” Handbook of Deep Learning in Biomedical Engineering and Health Informatics, Taylor & Francis, 2021. (Chapter)

Conference Papers

- Caren Babu, Vinodh P G, Sreelekha T, Milner Paul V, Suni Jose, Divya R, Alphonsa Philip. “Performance Evaluation of Machine Learning–Based NL2SQL Models on Time-Series Industrial Data.” 2026 International Conference on Innovations in Engineering and Technology (ICIET), Ernakulam. IEEE, Aug 2026, pp. 1–5. DOI: 10.1109/ICIET70550.2026.11712163
- Suni Jose, Vinodh P Vijayan, Caren Babu, Parvathi R, Divya R, Milner Paul. “A Comprehensive Review on the Scope of Eye Tracking on Early Autism Detection.” 2026 2nd International Conference on Innovations in Mechanical, Robotics, Computing and Biomedical Engineering (ICIMRBE), Ernakulam. IEEE, Aug 2026, pp. 1–8. DOI: 10.1109/ICIMRBE70745.2026.11710098
- Caren Babu, T Joseph Thomas, Joseph Johny, Noyal Lazar, Nandu Krishnan, Sudha Balagopal, Tony C Thomas, Milner Paul V. “Remote Infant Care Using an IoT-Integrated Neonatal Incubator.” 2026 International Conference on AI-Driven Solutions for Sustainable Smart Cities (ADSSSC), Thrissur. IEEE, Apr 2026, pp. 543–548. DOI: 10.1109/ADSSSC67751.2026.11581958
- Milner Vithayathil, Shuma Adhikari, L.S. Singh, et al. “A Low Noise Signal Conditioning Circuit for Neural Signal Acquisition.” IEEE Conference, July 2025.
- Milner Vithayathil, Richard Ningthoujam, Loitongbam Surajkumar Singh. “Embedded Based Solution for Intracortical and Intracranial Microstimulations for Assessing the Behavior of Rodents.” IEEE, Bangalore, 2019. (Conference)

Academic Projects

- B Tech Project (2013 – 17) – Brain Stimulator
- M Tech Project (2017 – 19) – Intracortical and Intracranial Microstimulator
- Ph.D. Thesis (2019 – 26) – Multifunctional miniature brain stimulation device for enhancing cognitive abilities in mentally challenged children