



## Curriculum Vitae



### Short biography

Lohith Kumar Pittala (Student Member, IEEE), born in India in 1996, completed his B.Tech. in Electrical and Electronics Engineering from Jawaharlal Nehru Technological University, Hyderabad, India, in 2017. He then pursued a M.Sc. in Electrical Engineering at the Alma Mater Studiorum - University of Bologna, Bologna, Italy, graduating in 2021. Following his M.Sc., he joined the Power Electronic Circuits and Photovoltaics Group of the Department of Electrical, Electronic, and Information Engineering, Alma Mater Studiorum - University of Bologna as a research assistant, supported with the Young Graduate Student Scholarship. Currently he is working towards his Ph.D. in Biomedical, Electrical, and System Engineering at the Alma Mater Studiorum - University of Bologna, specializing in Electrical Engineering. In 2024, he was a Visiting Scientist with the Power Electronic Group at the Tallinn University of Technology, Tallinn, Estonia. His research focuses on power electronic converters, including isolated DC/DC converters, and active front-end rectifiers. Eng. Pittala was the recipient of the IEEE PELS TC1 Travel Grant and Best Speaker Award for the IEEE ICDCM 2025.

### Education

- Nov. 2022 – **Ph.D. in Biomedical, Electrical, and System Engineering (IBES)**, *Alma Mater Studiorum – University of Bologna*.  
Oct. 2025  
Dissertation Title: *Analysis and Improvements of Isolated DC/DC Converters for DC Microgrids*.  
Supervisor: Prof. Riccardo Mandrioli; Co-supervisor: Prof. Mattia Ricco.
- Sept. 2024 – **Visiting Ph.D. Researcher**, *Tallinn University of Technology (TalTech), Estonia*.  
Jun. 2025 Collaborative research on isolated DC/DC converters under the supervision of Dr. Andrii Chub.
- Sept. 2018 – **M.Sc. in Electrical Engineering**, *Alma Mater Studiorum – University of Bologna*, 105/110.  
Oct. 2021  
Dissertation Title: *Hardware-in-the-loop implementation of single- and dual-phase shift control for dual active bridge converter in EV applications*.  
Dissertation in: Power Electronic Circuits M.  
Supervisor: Prof. Mattia Ricco; Co-supervisor: Prof. Riccardo Mandrioli.
- Jun. 2013 – **B.Tech. in Electrical and Electronics Engineering**, *Jawaharlal Nehru Technological University*.  
May. 2017  
Dissertation Title: *Cost Analysis of Integrated Hybrid Renewable Energy System*.  
Supervisor: Prof. V. Baby Shalini.

### Professional experience

- Nov. 2021 – **Member of the Power Electronic Circuits and Photovoltaics Group**, *Alma Mater Studiorum – University of Bologna*.  
Present  
Department of Electrical, Electronic, and Information Engineering (DEI).
- Feb. 2023 – **Teaching Assistant**, *Alma Mater Studiorum – University of Bologna, Italy*.  
Present  
Didactic tutor for the course Power Electronic Converters at the Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi" (DEI).
- Nov. 2021 – **Research Assistant**, *Alma Mater Studiorum – University of Bologna, Italy*.  
Nov. 2022  
Research on isolated DC-DC converters for electric vehicle fast chargers, focusing on bidirectional topologies, efficiency, reliability, and power range. Developed simulation models and controllers in PLECS and conducted hardware-in-the-loop tests using the Plexim RT Box.

- Feb. 2022 – **Teaching Assistant**, *Alma Mater Studiorum – University of Bologna, Italy*.  
Sep. 2022 Didactic tutor for the course Circular Economy and Life Cycle Thinking (12 CFU) at the Department of Civil, Chemical, Environmental, and Materials Engineering.

## Awards and Recognitions

### Awards

- 2025 **Marco Polo Scholarship**, *University of Bologna, Italy*.  
2025 **IEEE PELS TC1 Travel Grant**, *IEEE Power Electronics Society (PELS)*, IEEE International Conference on DC Microgrids (ICDCM), Tallinn, Estonia.  
2025 **Best Speaker Award**, *7th IEEE International Conference on DC Microgrids (ICDCM), Tallinn, Estonia*.  
Title of the work: *Cycle-Skipping Technique Based on Sigma–Delta Modulation in Series Resonant DC Transformer*.  
2023 – 2025 **Study Expert Award in Power Electronic Converters**, *University of Bologna, Italy*.  
2021 – 2022 **Young Graduate Scholarship**, *University of Bologna, Italy*.  
2018 – 2021 **ER.GO Study Grant**, *ER.GO, Bologna, Italy*.

### Recognitions

- 2025 **IEEE Student Member**, 98275477, IEEE Italy Section.  
Institute of Electrical and Electronics Engineers.  
2025 **IEEE IES Member**.  
IEEE Industrial Electronics Society.  
2025 **IEEE Young Professionals**.  
2025 **IEEE Systems Council**.  
2025 **IEEE Transportation Electrification Council**.

## Publications

Scopus bibliometric indicators:

Documents 17 (5 journal articles, 12 conference papers) - Citations 46 - H-index 5 - Google Scholar - [link](#)

### Journal articles

1. S. Cuoghi, R. Mandrioli, **L. K. Pittala**, V. Cirimele, M. Ricco, "Dual-Active-Bridge Model and Control for Supporting Fast Synthetic Inertial Action," *Energies*, vol. 15, 2295, 2022. DOI: 10.3390/en15062295.
2. M. Rimondi, R. Mandrioli, V. Cirimele, **L. K. Pittala**, M. Ricco, G. Grandi, "Design of an Integrated, Six-Phase, Interleaved, Synchronous DC/DC Boost Converter on a Fuel-Cell-Powered Sport Catamaran," *Designs*, vol. 6, 113, 2022. DOI: 10.3390/designs6060113.
3. S. Cuoghi, **L. K. Pittala**, R. Mandrioli, V. Cirimele, M. Ricco, G. Grandi, "Model-Based Adaptive Control of Modular DAB Converter for EV Chargers," *IET Power Electronics*, 1–17, 2024. DOI: 10.1049/pel2.12709.
4. **L. K. Pittala**, A. Chub, M. Ricco, R. Mandrioli, "Current Sharing Control of Modular Series Resonant DC Transformer," *IEEE Transactions on Industrial Informatics*, (submitted).
5. **L. K. Pittala**, A. Chub, G. Orfanoudakis, A. Kuperman, M. Ricco, R. Mandrioli, "Active Power Sharing Control in Asymmetrical Bidirectional DC/DC for Smart Transformer," *Open Journal of Power Electronics*, (submitted).

### Conference proceedings

1. **L. K. Pittala**, R. Barbone, R. Mandrioli, V. Cirimele, M. Ricco, G. Grandi, "Insights on DAB Converter with Auxiliary Inductors," *ICCEP*, Terrasini, Italy, 2023, pp. 458–463.

2. R. Mandrioli, **L. K. Pittala**, V. Cirimele, M. Ricco, G. Grandi, "Probabilistic Approach for the Study of Neutral Current Ripple in Split-Capacitor Inverters," *CPE-POWERENG*, Tallinn, Estonia, 2023, pp. 1–6.
3. **L. K. Pittala**, R. Barbone, R. Mandrioli, V. Cirimele, M. Ricco, "Impact of Magnetics Tolerance on the Power Sharing of Parallel Dual-Output Phase-Shift Full-Bridge Converters," *PCIM Europe*, Nuremberg, Germany, 2024, pp. 2571–2577.
4. **L. K. Pittala**, J. Geng, S. Baldisserri, R. Mandrioli, M. Ricco, G. Grandi, "Software-Based Power Sharing Control in Parallel Dual-Output Phase-Shift Full-Bridge Converters," *CPE-POWERENG*, Gdynia, Poland, 2024.
5. **L. K. Pittala**, A. Chub, V. Sidorov, S. Khan, M. Ricco, R. Mandrioli, "Cycle-Skipping Technique Based on Sigma–Delta Modulation in Series Resonant DC Transformer," *ICDCM*, Tallinn, Estonia, 2025.
6. E. L. Carvalho, R. Mandrioli, **L. K. Pittala**, A. Blinov, A. Chub, D. Vinnikov, "Universal Interlinking Converter for Prosumer DC Buildings: Operation with Different DC Grid Types," *ICDCM*, Tallinn, Estonia, 2025.
7. E. L. Carvalho, R. Mandrioli, **L. K. Pittala**, I. Bianchini, A. Blinov, A. Chub, D. Vinnikov, "Universal Interlinking Converter for Prosumer DC Buildings: Operation under Normal and Abnormal AC Grid Conditions," *ICDCM*, Tallinn, Estonia, 2025.
8. **L. K. Pittala**, M. Ricco, A. Chub, M. Sitbon, A. Kuperman, R. Mandrioli, "Active Power Sharing Control in Asymmetrical Bidirectional DC/DC for Smart Transformers," *ICDCM*, Tallinn, Estonia, 2025.
9. R. Mandrioli, F. Grazian, **L. K. Pittala**, M. Ricco, G. Papafotiou, "Three-Phase Three-Level Dual Active Bridge for EV Charging: Wide Output Voltage Range with Light-Load Soft-Switching Morphing," *ICDCM*, Tallinn, Estonia, 2025.
10. **L. K. Pittala**, J. Geng, E. L. Carvalho, A. Chub, S. N. Banavath, D. Vinnikov, M. Ricco, R. Mandrioli, "Enabling Talkative Power Conversion in Asymmetrical Bidirectional DC/DC Using Cycle-Skipping Technique," *ICCEP*, Sardinia, Italy, 2025.
11. S. Baldisserri, R. Mandrioli, **L. K. Pittala**, G. Neretti, V. Cirimele, M. Ricco, A. Cristofolini, "Square-Wave-Fed Hybrid Symmetrical Cockcroft–Walton Voltage Multiplier for High-Voltage DC Power Supplies," *PESGRE*, Dharwad, India, 2025.
12. **L. K. Pittala**, E. L. Carvalho, M. Ricco, G. I. Orfanoudakis, A. Kuperman, R. Mandrioli, "ZVS Analysis of an Interleaved Current-Fed DAB for Bipolar and Unipolar DC Grids," *PESGRE*, Dharwad, India, 2025.

## Oral and Poster Presentations

- Jun. 2023 **Oral presentation**, *International Conference on Clean Electrical Power (ICCEP)*, Terrasini, Italy.  
Title of the work: *Insights on DAB Converter with Auxiliary Inductors*.
- Jun. 2024 **Oral presentation**, *IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG)*, Gdynia, Poland.  
Title of the work: *Software-Based Power Sharing Control in Parallel Dual-Output Phase-Shift Full-Bridge Converters*.
- Sept. 2025 **Oral presentation**, *IEEE International Conference on DC Microgrids (ICDCM)*, Tallinn, Estonia.  
Title of the work: *Cycle-Skipping Technique Based on Sigma–Delta Modulation in Series Resonant DC Transformer*.
- Sept. 2025 **Poster presentation**, *IEEE International Conference on DC Microgrids (ICDCM)*, Tallinn, Estonia.  
Title of the work: *Active Power Sharing Control in Asymmetrical Bidirectional DC/DC for Smart Transformers*.

## Student Tutorship

2022–2025 **Co-supervised 6 Master's theses in Power Electronics**, *University of Bologna*.

## Personal Skills

### Languages

Telugu **Native speaker**  
English **Upper intermediate**  
Italian **Pre-intermediate**

### Digital Skills

- **Productivity software:** Microsoft Office 365
- **Markup languages:**  $\LaTeX$
- **Software platforms:** MATLAB | Simulink | Simscape | Stateflow | PLECS | LabVIEW
- **Real-Time:** STM32CubeIDE | RT-Box | D-Space
- **EDA software:** LTspice | Altium
- **Programming languages:** C | MATLAB/Octave | Python
- **Vector graphics editors:** Inkscape



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