Dr. Zahid Ullah

Associate Professor & Chairman (Electrical and Computer Engineering)

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https://scholar.google.co.kr/citations?user=BE4cjcsAAAAJ&hl=en

Education

- **PhD in Electronic Engineering** (2014), City University of Hong Kong, Kowloon Tong, Hong Kong
- **MS in Electronic, Electrical, Control, and Instrumentation Engineering** (2010), Hanyang University, South Korea
- **BSc in Computer Systems Engineering** (2006), University of Engineering & Technology Peshawar, Pakistan

Experience

Associate Professor & Chairman (Jan 2022 – till date)	Department of Electrical & Computer Engineering, Pak-Austria Fachhochschule: Institute of Applied Sciences and Technology, Haripur, Pakistan
Head of Department (May 2020 – Jan 2022)	
Assistant Professor (Jan 2020 – Jan 2022)	
Manager QEC (May 2020 – Nov 2020)	
Head of Department (April 2018 – Jan 2020)	Department of Electrical Engineering, CECOS University of IT & Emerging Sciences, Peshawar, Pakistan
Associate Professor (Oct 2017 – Jan 2020)	
Assistant Professor (Aug 2014 – Oct 20 17)	
Lecturer (Aug 2010 – Aug 2011)	Department of Electrical Engineering, NUCES, Peshawar, Pakistan
Lecturer (March 2010 – Aug 2010)	Peshawar College of Engineering, Peshawar, Pakistan
Lab. Engineer (Sept 2007 – Feb 2008)	University of Engineering & Technology, Mardan , Pakistan

Honors and Awards

OBE-based Accreditation Award (2019)	CECOS University of IT & Emerging Sciences, Peshawar, Pakistan
Best Researcher Award (2018 and 2019)	
Letter of Appreciation (2019)	
Outstanding Academic Performance Award (2013 and 2014)	City University of Hong Kong, Hong Kong
Research Tuition Fee Scholarship (2012 and 2013)	
Conference Grant (2012 and 2013)	
Postgraduate Studentship (2011)	
MS Engineering Scholarship (2008)	Higher Education Commission, Pakistan

Patents and Publications (Selected)

Patents

1) Muhammad Irfan, Ray C. C. Cheung, and **Zahid Ullah,** "Bank-selective Power Efficient Ternary Content-addressable Memory". Patent number: US11,574,680, Publication date: Feb 7, 2023.
2) Muhammad Irfan, Ray C. C. Cheung, and **Zahid Ullah**, "An Electronic Memory Device and a Method of Manipulating the Electronic Memory Device", US patent number: 11,120,874, Patent issue date: September 14, 2021.
3) Jeong A Lee, Inayat Ullah, and **Zahid Ullah**, "TCAM architecture where content-based search is conductible". Patent Application Publication number: US 2020/0185031 A1, Publication date: 11/6/ 2020.

Publications

1) Muhammad Irfan, Abdurrashid I. Sanka, **Zahid Ullah**, and Ray C. C. Cheung, "Reconfigurable Content-Addressable Memory (CAM) on FPGAs: A Tutorial and Survey*", Future Generation Computer Systems*, vol. 128, pp: 451-465, 2022
2) Muhammad Irfan, **Zahid Ullah**, Mehdi Hasan Chowdhury, and R. C. C. Cheung, "RPE-TCAM: Reconfigurable Power-Efficient Ternary Content-Addressable Memory on FPGAs," in *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, vol. 28, no. 8, pp. 1925-1929, Aug. 2020.
3) Inayat Ullah, **Zahid Ullah**, Umar Afzaal, and Jeong-A Lee, "DURE: An Energy- and Resource-Efficient TCAM Architecture for FPGAs with Dynamic Updates", in *IEEE Transactions on Very Large-Scale Integration (VLSI) Systems,* vol. 27, no. 6, pp. 1298-1307, June 2019.
4) **Zahid Ullah**, "LH-CAM: Logic-Based Higher Performance Binary CAM Architecture on FPGA," *in IEEE Embedded Systems Letters*, vol. 9, no. 2, pp. 29-32, June 2017.
5) **Zahid Ullah,** Manish Kumar Jaiswal, and Ray C. C. Cheung, "Z-TCAM: An SRAM-based architecture for TCAM," in *IEEE Transactions on Very Large-Scale Integration (VLSI) Systems*, vol. 23, no. 2, pp. 402–406, 2014.
6) **Zahid Ullah**, Kim Ilgon, and Sanghyeon Baeg, "Hybrid Partitioned SRAM-based Ternary Content Addressable Memory", in *IEEE Transactions on Circuits and Systems I-Regular Papers*, 59(12), pp: 2969-2979, December 2012.