

Bahman Ramazan Ali Alyaei

St. # 2, House # 8, Dam Colony, Sector E-14, Islamabad, Pakistan.

Email: bahman.alyaei@gmail.com

Date of Birth: 11th May, 1978

Cell #: +92-0306-6186514

CNIC # 42301-0584912-3

Practical and open to new challenges, very hardworking, very good theoretical and practical knowledge in Telecommunication Networks (Wireless Networks including 2G-5G, Call Signaling Network Optimization, Network Planning), and strong knowledge regarding Prompt Engineering and AI Tools (Writing Optimum Prompts, Training and Optimizing AI tools for specific applications such as analyzing call data to study and generate KPIs).

Strong knowledge regarding electrical engineer curriculum design, good experience in design and development of Labs for undergraduate electrical engineering programs, and very strong academic counseling abilities.

Qualifications:

1) PhD in Electrical Engineering (2013-2022)

Thesis title: Load Balancing In Nonuniform Heterogeneous Cellular Network

Isra University, Islamabad Campus, Islamabad

CGPA: 3.72

2) Masters in Electrical Engineering (2009-2011)

Thesis title: Line Coded Modulation: One Binary One Ternary Phase Shift Keying with Complete Analysis.

Air University, Islamabad.

CGPA: 3.78

Academic Standing: High Honor, (Gold Medal)

3) Bachelor of Science in Electrical Engineering (1997-2002)

Major: Communication Engineering

Ajman University of Science and Technology

AL-Ain Campus, UAE.

CGPA: 3.47

Experience:

S.N.	Job Title	Employer Name	Start Date	End Date	Duties
1	Associate Professor	Lahore Leads University	Feb 2 nd , 2026	To date	Supervise, co-supervise, and evaluate PhD and MSCS thesis, Prepare and conduct lectures, tutorials, Lab experiments, quizzes, and assignments, marking and grading, HEC revised curriculum design for Computing Sciences, prepare NCEAC Accreditation documents and process.
2	Assistant Professor	Air University, Islamabad	Aug 31 st , 2013	Mar 31 st , 2025	Supervise, co-supervise, and evaluate MSEE thesis, Prepare and conduct lectures, tutorials, Lab experiments, quizzes, and assignments, update Lab manual, marking and grading.
3	Group Head (Telecom)	Air University, Islamabad	Jul 1 st , 2021	Dec 1 st , 2024	Review and update of academic curriculum, Exam papers quality, prepare PEC Accreditation documents and process, member of departmental board of studies,

					Departmental QEC documentation
4	Communication Lab Supervisor	Air University, Islamabad	Feb 22 nd , 2010	Mar 31 st , 2025	Lab upgradation, consumable items requirements, Lab manuals.
5	Lecturer	Air University, Islamabad	Sep 15 th , 2012	Aug 30 th , 2013	Assist senior faculty members, Prepare and conduct lectures, tutorials, Lab experiments, quizzes, and assignments, update Lab manual, marking and grading.
6	Junior Lecturer	Air University, Islamabad	Feb 15 th , 2008	Sep 14 th , 2012	Assist senior faculty members, Prepare and conduct lectures, tutorials, Lab experiments, quizzes, and assignments, update Lab manual, marking and grading.
7	Lab Engineer	Air University, Islamabad	Feb 15 th , 2007	Feb 14 th , 2008	Assist senior faculty members, Prepare and conduct experiments, update Lab manual, marking and grading
8	Class Advisor	Air University, Islamabad	Feb 15 th , 2008	Mar 31 st , 2025	Academic and social counselling
9	Final Year Design Project Supervisor	Air University, Islamabad	Feb. 15 th , 2008	Mar 31 st , 2025	Supervised more than 18 projects, member of FYDP evaluation committee, assign tasks, monitor the performance.
10	MSEE Thesis Supervisor	Air University, Islamabad	Feb, 2016	Mar 31 st , 2025	Supervised, co-supervised and evaluated more than 6 MSEE theses.
11	Officer In-charge Labs	Air University, Islamabad	Aug 1 st , 2013	Aug 30 th , 2017	Design, development, and upgradation of High Voltage, Control Systems, Power Electronics, and Electrical Machines Labs, Prepare tender documents, communication with vendors, Evaluation of technical and financial offers.
12	Technical Expert	PTCL and Ufone Summit, Islamabad, Pakistan	Jun. 1 st , 2021	Jun. 3 rd , 2021	Member of selection board

Taught Courses and Labs:

1. Neural Networks (Graduate Course)
2. Advanced Digital Communications, (Graduate Course).
3. Analog and Digital Communication, (Theory + Lab).
4. Digital Communications, (I & II), (Theory + Lab).
5. Computer Networks, (Theory)
6. Telecommunication Networks, (Theory + Lab).
7. Wireless Communication & Networks, (Theory)
8. Digital Signal Processing, (Theory).
9. Signals and Systems, (Theory)
10. Electric Circuit Analysis, (Theory + Lab).
11. Network Analysis, (Theory + Lab).
12. Digital Logic Design, (Theory + Lab).

13. Analog Electronics (I), (Lab).
14. RF Circuit Design, (Lab).

Journals Publications

1. **Bahman Alyaei**, "The Triadic Postulate: A Computational Model of Perception, Cognition, and Emotion for Ethically Aligned Artificial Intelligence". Zenodo, Jun. 10, 2025. doi: 10.5281/zenodo.15628209.
2. Munaza Rehmat, Bushra Batool, and Bahman Alyaei, "Utility-Based Successive Offloading Scheme for Downlink Rate Enhancement in Heterogeneous Networks," March 14, 2025, Available Online SSRN: <https://ssrn.com/abstract=5178920> or <http://dx.doi.org/10.2139/ssrn.5178920>
3. Sumaira Mushtaq, **Bahman R. Alyaei**, Momna Sultan, Janshair Khan, "Deep Communication: Exploring End-to-End Wireless with Convolutional Neural Network", NUML International Journal of Engineering and Computing, Vol. 2, Issue: 1, Jul. 2023, DOI:10.52015/nijec.v2i1.36.
4. Adnan Fazil, Aamir Hasan, **Bahman R. Alyaei**, Khurram Khan, "A proactive Medium Access Control (MAC) for finite-sized machine-to-machine (M2M) communication networks", Computers and Electrical Engineering Journal, Elsevier, Aug., 2022, 102 (2022) 108243.
5. **Bahman R. Alyaei**, Ijaz M. Qureshi, Shahryar Saleem, and Shahid H. Abbassi, "Offloading With Hybrid Cell Association in Non-Uniform Heterogeneous Cellular Networks: Modeling and Performance Analysis", IEEE Access, Vol. 7, pp. 172214- 172230, Nov., 2019, doi. 10.1109/ACCESS.2019.2955934
6. Ayesha Salman, Ijaz Mansoor Qureshi, Shahryar Saleem, Sarah Saeed, **Bahman R. Alyaei**, "Novel sensing and joint beam and null steering based resource allocation for cross-tier interference mitigation in cognitive femtocell networks", Wireless Networks, Springer Science+Business Media, New York 2017, DOI 10.1007/s11276-017-1465-6.
7. Asma Farooq, Azka Riaz, **Bahman R. Alyaei** and Ijaz Mansoor Qureshi, "Velocity Control of a Wheelchair Using IMC-PID and IMC-PID Hybridized with Neural Network", International Journal of Artificial Intelligence and Applications for Smart Devices Vol.4, No.2 (2016), pp.19-30.
8. Shahid H Abbassi, Ijaz M Qureshi, Hameer Abbasi and **Bahman R Alyaei**, "History-based spectrum sensing in CR-VANETs", EURASIP Journal on Wireless Communications and Networking (2015) 2015:163, DOI 10.1186/s13638-015-0404-4.
9. Kiran Sultan, Ijaz Mansoor Qureshi, **Bahman R. Alyaei**, Ali Azad, "Performance Enhancement of Secondary Communication through Multiple Relay Selection and Power Allocation in Non-Regenerative Cognitive Radio Networks", Journal of Basic and Applied Sciences, Vol. 3(10), 2013.
10. Shahid H. Abbassi, I. M. Qureshi, **Bahman R. Alyaei**, Hameer Abbasi, Kiran Sultan, "An Efficient Spectrum Sensing Mechanism for CR-VANETs", Journal of Basic and Applied Scientific Research, 2013.
11. Glass, A., **Alyaei, B.**, Nidal, A., and Bastaki, E., "The H-Ternary Line Code: Circuit Design and Modeling," ICASTOR Journal of Engineering, Vol. 2, No. 3(3), 2009, pp. 485-499.

Conference Proceedings

1. **Alyaei, B.**, Glass, A., Qureshi, I. M., and Nidal, A., "Line Coded Phase Shift Keying (LCPSK): One Binary One Ternary PSK (1B1TPSK) transmitter analysis and design," 25th International Technical Conference on Circuits/Systems, Computer and Communications (ITC-CSCC 2010), Ambassador Pattaya, Thailand, July 4-7, 2010.
2. **Alyaei, B.**, and Glass, A., "Line Coded Modulation (LCM): One Binary One Ternary Phase Shift Keying (1B1TPSK)," 3rd International Conference on Signal Processing and Communication Systems (ICSPCS 2009), Sep. 28-30, 2009 Omaha, Nebraska, USA

3. **Alyaei, B.**, "Arctan Spectrum for Baseband Data Transmission" The 5th International Conference: Sciences of Electronic, Technologies of Information and Telecommunications (**SETIT 2009**), March 22-26, 2009, TUNISIA.
4. Glass, A., **Alyaei, B.**, and Nidal, A., "H-Ternary Line Decoder for Digital Data Transmission: Circuit Design and Modeling," The 6th International Symposium on DSP for Communication Systems, 28-31 Jan., 2002, Manly, Sydney, Australia
5. Glass, A., **Alyaei, B.**, and Bastaki, E., "Design and Modeling of H-Ternary Line Encoder for Digital Data Transmission," International Conference on Info-Tech & Info-Net (ICII2001), Oct.29- Nov. 1, 2001, Beijing, China.

Supervised, Co-supervised MSEE Theses:

- 1- A Non-Markovian Dynamical Model of Perception and Decision: Emotional Memory-Induced Bias in Cognitive Systems, (Under Process)
- 2- Development and Optimization of an Explainable Deep Learning System for Pneumonia Detection in Resource-Constrained Clinical Environments, (Under Process)
- 3- Mobility Management in 5G Networks, (Completed)
- 4- Modeling of Non-Uniform Heterogeneous Cellular Networks for 5G and Beyond, (Completed)
- 5- Detection of Signals with Unknown Delay in TDD Systems for 5G and Beyond, (Completed)
- 6- Deep Communication: Exploring End-to-End Wireless with Convolutional Neural Network, (Completed)

Some of the Supervised Final Year Design Projects:

- 1- Visual Object Detection and Tracking Using Kalman Filter.
- 2- LabView Based MP3 Player Design.
- 3- Artic Cloud Based Car Parking System.
- 4- Applications of Convex Optimization in 5G Networks.
- 5- Design and Implementation of Analog and Digital Communication Trainer.
- 6- Design and Implementation of Shunt Active Filter.
- 7- Hybrid Ternary Line Encoder and Decoder Design.

Research Interest:

1. Uninform and Non-Uniform Heterogeneous Cellular Networks.
2. Evolutionary Algorithms.
3. Line coding for digital data transmission.
4. Pulse Shaping For Baseband Digital Data Transmission.
5. Adaptive Filters.
6. Neural Networks
7. Fuzzy Logic

Awards, Certificates, Seminars, and Licenses:

1. Workshop on Outcome-based education (OBE), Air University, Islamabad, 16-18 Aug., 2021.
2. Seminar on Engineering Educator and Project Management for Countries in Belt and Road Areas, Beijing, China, 12th Oct.-1st Nov., 2016.
3. Professional Competency Enhancement Program for Teachers (PCEPT), held at Air University, Islamabad, in collaboration with Higher Education Commission (HEC), June 11 to July 13, 2012.
4. Gold medal certificate for outstanding academic performance in MSEE, 2009-2011.
5. Member PEC

Expertise in Tools:

1. AI Tools (ChatGPT, Gemini, CapCut, Meta AI, Notebook LM)
2. Zoom, Microsoft Teams, Google Meet.
3. LabVIEW 2010 and NI Multisim 14.2

4. HackRF One SDR and GNU Radio
5. MatLab Package.
6. Microsoft Windows, and Microsoft Office (Word, Excel, Power Point, Whiteboard, OneNote).