MUHAMMAD SHIRAZ AHMAD

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in https://www.linkedin.com/in/shirazahmad-/

EDUCATION

Lahore University of Management Sciences, Lahore, Pakistan
Master of Science (MS), Physics   (Sep 2017 – Jun 2019)

Bahauddin Zakariya University, Multan, Pakistan
Bachelor of Science (BS), Physics   (Oct 2013 – Jun 2017)

WORK EXPERIENCE

LUMS School of Science & Engineering, Lahore, Pakistan

Teaching Assistant   (Jan 2020 – May 2020)
• Subject: Computational Physics (With Python)

Research Assistant   (Dec 2019 – Present)
• Project 1: Ferromagnetic Resonance (Experimental Design & Development)
• Project 2: Nuclear Magnetic Resonance (Prototype Testing)
• Supervisor: Dr. Muhammad Sabieh Anwar

Lab Teaching Assistant   (Sep 2019 – Dec 2019, Jan 2020 – May 2020)
• Subject: Undergraduate Physics Lab

National University of Computer and Emerging Sciences, Lahore, Pakistan
External Instructor   (Aug 2019 – Dec 2019)
• Enrollment = 84
• Subject Taught: Applied Physics with MATLAB

Qosain Scientific and PhysLab, Lahore, Pakistan
Python Developer   (Jun 2019 – Aug 2019)
• NumPy, SciPy, Matplotlib, Pandas, PyQt
• Scientific Software Developed (*Graphical User Interface*):
- PhysPlot (*Data Analysis and Graphing*), Link: https://www.physlab.org/physplot/
- Air Track Analyzer (*Numerical Analysis of the Experiment: Linear Air Track*)

LUMS School of Science & Engineering, Lahore, Pakistan

Supervision of Research Internee in Graduate Physics Lab   (Jul 2019 – Aug 2019)
• Project: Experimental Analysis of Superconductivity and Quantum Interference

Research Assistant   (Jun 2019 – Jul 2019)
• Project: Equipping the Physics laboratory at NUTECH
• Supervisor: Dr. Muhammad Sabieh Anwar

Graduate Teaching Assistant (*Modern Physics*)   (Jan 2018 – May 2018, Jan 2019 – May 2019)

Tuition Hub (http://tuitionhub.pk/), Lahore, Pakistan
Chairperson & Founder   (2018 – Present)
• Registered tutors: 1000+
• Students served: 100+

Nawa–i–Waqt (Newspaper), Multan, Pakistan.
Communication Systems Operator   (Jan 2014– Jul 2017)

SCIENTIFIC REPORTS

Masters Thesis
• **Ahmad, M.S.** and A.Z. Chaudhry (May 2019). *Solutions for bosonic dissipative quadratic open systems.*

Academic Projects (Selected)
• **Ahmad, M.S.** and M.S. Anwar (Feb 2019a). *Arduino based oscilloscope for Physlab (physlab.org).*

• **Ahmad, M.S.**, M. Shafique, and M.S. Anwar (Apr 2019). *Physlock: An Entry–Level Low–Cost Lock–In Amplifier Board (physlab.org).*

• Sohail, E., **Ahmad, M.S.**, and M.S. Anwar (Jul 2019). *Experimental Analysis of Superconductivity and Quantum Interference. (physlab.org).*

• **Ahmad, M.S.** (2018a). *Orbital Angular Momentum Generation and Detection (researchgate.net).*

• **Ahmad, M.S.** (2018b). *Reflection and Transmission of Light from Multilayered Films: An easy approach, using MATLAB (physlab.org).*

• Arshad, M.J., **Ahmad, M.S.**, and R. Abbas (2017). *Measurement of Verdet Constant by Faraday Rotation. (researchgate.net).*

LAB Manuals

- **Ahmad, M.S.** and Anwar, M.S. (May 2019). *Newton's cradle observed by video tracking (physlab.org)*.
- **Ahmad, M.S.** and Anwar, M.S. (May 2019). *Experiments with a linear air track (physlab.org)*.
- **Ahmad, M.S.**, Hussain, A., Salman,R., and M.S. Anwar (Jul 2019). *Tuning a Laser Diode (physlab.org)*.
- Hassan, M.U., **Ahmad, M.S.**, and M.S. Anwar (Apr 2019). *PhysLogger – Quick start Guide (App) (physlab.org)*.

PROJECTS

Academic
- Physlock – An Entry Level Lock–in Amplifier Board (*Testing, Troubleshooting and Documentation*)
- Reflection and Transmission of Light from Multilayer Films (*MATLAB Algorithm, Experimentation, and Documentation*)
- Orbital Angular Momentum Generation and Detection (*Theoretical Study, Simulations, and Documentation*)
- Measurement of Verdet Constant by Faraday Rotation (*Experimental Design, Development and Documentation*)
- Tuning a Laser Diode with LabVIEW (*Improvement and Documentation*)
- Gated RF Pulses (*Experimental Design and Development*)
- Zeeman Effect (*Experimentation and Analysis*)
- A simple Arduino Based Oscilloscope for Physlab (*Development and Documentation*)
- Newton's cradle (*Video Analysis, Numerical Analysis, and Documentation*)
- Sound of Bubbles (*Experimental Design and Analysis*)
- Optics Experiments: Mach-Zehnder / Fabry-Perot / Michelson Interferometer, Diffraction from Single Slit

Nonacademic
- Designed Applicant Tracking System, On Google Sheet, to Filter Suitable Candidates, Registered Through Google Forms.
- Nutrition Tracker – A Python Software to Track Diet & Weight (Development)
- Sending Bulk Email Using Python and Google Sheets.

COMMUNITY SERVICE / VOLUNTEERING

Khwarizmi Science Society, Lahore, Pakistan

Science Demonstrator (15th DAWN Education Expo 2018)	Feb 07,2018
Science Demonstrator (Lahore Science Fair 2018)	Jan 27, 2018
Mentor (Lahore Science Fair 2019)	Oct 12, 2019

Bahauddin Zakariya University, Multan, Pakistan
Class Representative (BS, Semester 5)   (2015)

CORE SKILLS

Software: MATLAB, Maplesoft, Mathematica, NI Multisim, Adobe Illustrator, Microsoft Visio
Programming languages: Python, C++, LaTeX, VLog (FPGA)
Hardware prototyping: Vector Network Analyzer (Pico VNA), NI DAQ, Software-defined radio, Arduino, Lock–in Amplifier
Miscellaneous: Linux OS

February 2, 2020

Muhammad Shiraz Ahmad,
Lahore, Pakistan.