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Harshit Lakhotia, PhD

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EDUCATION

PhD (Physics)	**Ludwig Maximilian Universität,** Munich, Germany, (2014-2019) Summa Cum Laude
BS-MS (Physics)	**Indian Institute of Science Education & Research (IISER),** Kolkata, India, (2009-2014) CGPA 9.1/10

TEST SCORES

GRE	Total: 323/340 Quant:168/170, Verbal:155/170
TOEFL	107/120

SKILLS

PROGRAMMING LANGUAGES
Python, Matlab

DATABASE TOOLS
SQL, KQL

NUMERICAL LIBRARIES
Numpy, Pandas, scikit-learn, statsmodels

VERSION CONTROL
Git: https://github.com/lakhotiaharshit

BUSINESS INTELLIGENCE
PowerBI

RELEVANT COURSES
Credit risk modelling (Udemy), Numerical Analysis, Advanced Math Methods, Statistics, Linear Algebra and ODE

DEPLOYMENT
Azure DevOps, Travis CI, Jenkins

LANGUAGES

English ●●●●●
Hindi ●●●●●
Deutsch ●●○○○

HOBBIES AND OTHER INTERESTS

Harmonica: Taught myself Harmonica after being inspired by the Jazz music scene in Munich

Cooking: Experimenting in the kitchen is my hobby. Being a vegetarian, I try to invent the plant-based versions of meat - based dishes

Yoga and Meditation: Learning since I was 14. Helps me keep my mind alert and body fit

WORK EXPERIENCE

Research Software Design Engineer
June 2019 - Present
Microsoft Quantum   Delft

- Developer in QCoDeS team, a python based open-source data acquisition code
- Implemented linear regressions based models to produce analysis software for the experimental data
- Scrum master of the QCoDeS support team for scientists
- Designed and implemented the collection and analysis of telemetry data from internal users of QCoDeS
- Analyzed the above using Azure application insights and Kusto Query Language (KQL), to generate insights dashboard in PowerBI
- Worked in Agile software development environment which included test-driven development, daily stand-ups, planning sessions and sprints
- Knowledge of Azure DevOps, Jira, Git, Jenkins, Travis CI

Research Assistant
June 2014 - May 2019
Max Planck Institute for Quantum Optics   Munich

- Developed a Pico-scope to observe valence charge density at picometer scale
- Lead a 3 member team to speed up the electron dynamics in an experiment to make electronic devices a million times faster using ultrafast lasers
- Collaboratively solved set of differential equations in Matlab, interpreted results and formulated theoretical predictions
- Performed Fourier analysis, regression analysis and time frequency analysis, on the experimental data using the developed model in Matlab
- Published 3 high impact, peer-reviewed, journal articles cited by 137 other research articles and reported 4 papers in conferences worldwide
- Managed a spend of 100 thousand euros every year for laboratory maintenance and expansion

LEADERSHIP AND MANAGEMENT ROLES

- **Head, Science Festival, IISER Kolkata (2012-13):** Lead a team of 60 people to organise a science festival that lasted 3 days and had 3000 participants. Roles included administrative duties, coordinating with events, hospitality, sponsorship, publicity, and web designing team
- **Event Manager, Science Festival, IISER Kolkata (2011-12):** Lead a team of 5 people to organise an *escape room* event. Roles involved designing a web-based selection round, writing and directing the script for an on-site round, designing posters and publicising the event
- **Treasurer, Movie Club, IISER Kolkata (2010):** Involved in screening and publicity of the movie, brought local sponsors and managed the club's budget

ACHIEVEMENTS AND AWARDS

- Co-authored the article "Multi-petahertz electronic metrology" in '**Nature**'- the most cited and highest impact academic journal with acceptance rate of 7.6%
- **DAAD RISE Scholarship program (2015, 2017):** Hosted a research project to invite and supervise a bachelor student from the USA
- **IMPRS-APS Fellow (2014-2018):** Fellowship to conduct doctoral studies
- **SPIE Optics and Photonics Education Fellowship (2013):** Grant used to perform collaborative research between the group in Arlington, Texas (3 months) and Kolkata, India (3 months) in field of photonics
- **CSIR-NET Physics (2013):** Secured all India rank 157 in this national level examination conducted to fill positions of Lectureship and Research scholar
- **Summer Research Fellowship (2012):** Fellowship to work at Raja Ramanna Centre of Advanced Technology, India for 2 months
- **Travel Grant (2013):** To present my research work in a conference in the USA
- **INSPIRE Fellowship (2009-2014):** Monthly stipend for pursuing undergraduate studies in basic sciences in India
- **IIT JEE (2009):** Top 2% (out of around 400,000 applicants) in the joint entrance examination conducted by Indian Institute of Technology