

# WASIM AFTAB, PhD

Bioinformatician and Software Engineer

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Neuried, Germany



## EXPERIENCE

### Post-doctoral researcher

Ludwig Maximilian University of Munich

01/2022 - Present Munich, Germany

- Developed an AI QA bot web app that improved biomedical information retrieval by 137.5% over SOTA
- Programmed Snakemake pipelines for NGS data analysis using R and Python, reducing data processing time by half and enhancing reproducibility of results

### Research Assistant during PhD

Ludwig Maximilian University of Munich

09/2015 - 12/2021 Munich, Germany

- Developed R packages, shiny, and Electron apps for proteomics data analysis adopted by 10+ research labs
- Developed MATLAB codes for efficient mass spectrometry data analysis and accurate protein complex prediction

### Senior Software Engineer

Icelero Technologies Private Limited

04/2012 - 12/2012 Bangalore, India

- Implemented test automation pipeline using Java and Selenium, significantly reducing testing time

### R&D Assistant

Jawaharlal Nehru Centre for Advanced Scientific Research

08/2009 - 03/2012 Bangalore, India

- Enhanced linear algebra C subroutines, markedly boosting computational speed in quantum chemistry calculations
- Developed C codes to predict functions of hypothetical proteins, aiding structural biologists in wet lab research

## EDUCATION

### PhD Computational Proteomics

Ludwig Maximilian University of Munich

09/2015 - 12/2021 Munich, Germany

### MSc Computer Engineering

King AbdulAziz University

01/2013 - 05/2015 Jeddah, Saudi Arabia

### BEng Computer Engineering

Visvesvaraya Technological University

09/2005 - 08/2009 Belgaum, India

## SUMMARY

I specialize in transforming high-throughput omics data into actionable insights and developing NLP tools to enhance biomedical information retrieval. My work leverages innovative techniques like prompt engineering and knowledge graphs to guide LLMs in generating precise responses for complex biomedical QA tasks. Recently, I developed an AI search engine that significantly enhances LLM-generated outputs by integrating explicit signals from user queries. My past projects include open-source software for peptide identification from MALDI-IMS data, proteomics data visualization, Snakemake pipelines that drastically reduced data processing time, and R packages widely adopted across labs. While my primary focus has been on biomedical research, I am a versatile problem-solver with strong communication skills, eager to apply my expertise across various domains. I am driven by a passion for advancing research and fostering cross-disciplinary innovation in STEM fields.

## SKILLS

Bioinformatics, NGS, Proteomics data analysis, NLP, Machine learning, Scientific writing, R, Python, MATLAB, C, Selenium, Shell scripting, Chatbot and Full-stack app development.

## LANGUAGES

- English, Bengali, Hindi - Full professional proficiency
- German, Arabic - Limited working proficiency

## FIND ME ONLINE



LinkedIn

<https://www.linkedin.com/in/wasim-aftab>



GitHub

<https://github.com/wasimaftab>



ResearchGate

<https://www.researchgate.net/profile/Wasim-Aftab>



Portfolio

<https://wasimaftab.de>