Shreya Kapoor

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Education

Bonn-Aachen International Center for Information Technology (b-it) — Bonn, Germany
M.Sc. Life Science Informatics — *Oct.2018 – Nov. 2020*
CGPA: 1.7/5.0 on German Scale — ***Transcript***

Miranda House, The University of Delhi — New Delhi, India
B.Sc. (H) Physics — *July 2015– Aug. 2018*
CGPA: 8.35/10 — ***Transcript***

Delhi Public School, R.K.Puram — New Delhi, India
CBSE class 12 Science stream — *April 2015*
Percentage: 95.5% — ***Transcript***

Work Experience

Data Analyst — March 2021-Now
Max Planck Institute of Human Cognitive and Brain Sciences — *Research Group- Learning in Early Childhood*

- Implementing preprocessing workflows for fMRI data on High Perfomance Computers
- Adapting workflows for longitudinal studies
- Programming fMRI experiment simulations from scratch
- Running quality control

Master Thesis Student — April 2020– Nov 2020
The University of Bonn, Germany — *Visualization and Medical Image Analysis Group*

- Title: 'Extraction of most predictive subgraphs from models of human brain connectivity'
- Trained classifiers on DTI (Diffusion Tensor Imaging) data
- Processed scans of 200 subjects from the Human Connectome Project, total 1 TB data

Teaching Assistant — May-Oct 2020
The University of Bonn, Germany — *Visualization and Medical Image Analysis Group*

- Tutored exercise sessions for the lecture 'Visual Computing in the Life Sciences'
- Responsible for assignment grading and supporting curriculum development

Graduate Research Assistant — April 2019– Oct 2019
The University of Bonn, Germany — *Visualization and Medical Image Analysis group*

- Optimized Neural Fiber tracking techniques (based on Diffusion MRI)
- Implemented numerical methods for accurate representation of biological fiber bundles

Student Research Intern — 2016-17
University of Delhi, India — *Design Innovation Center*

Research Intern — Oct-Dec 2017

- Analyzed fMRI data from complex natural simulation with an audio movie (Forrest Gump)
- Research area of auditory attention and cognition

Research Intern — Jun-Aug 2017

- Feature analysis and component reduction of complex EEG (Electroencephalogram) data using DEAP Dataset
- Visualized components of a 4-dimensional Tensor

Research Intern — Oct-Dec 2017

- Worked at the interface of Cognitive Science and Brain-Computer Interface
- Investigated the effects of music on the brain through EEG data
- Determined correlations of music choices to personality types using Psychometric testing

Projects

Metadata-enriched Image Database | *Java, Maven, Git* Oct 2019– Jan 2020

- In progress for publication, code: ***github.com/ShreyaKapoor18/biomed_images_metadb***
- A Tool for Generating and Interacting with an Image Database using Metadata
- Developed a Commandline interface (CLI) in Java for querying an SQL database
- Designed a Restful API to query an SQL Image Database

Technical Skills

Languages: Java, Python, C++, SQL, HTML, R
Frameworks: Maven, RestfulAPI, SLURM
Developer Tools: Git, Docker, PyCharm, IntelliJ, Eclipse
Libraries: PyTorch, Tensorflow, Nipype, Nilearn, DiPy, Pandas, NumPy, Matplotlib
Software Packages: Mrtrix3, FSL, Psychopy
Data Management: DataLad, rclone

Scholarship and Awards

Scholarship and academic advising programme for foreign students Jul. 2020- Nov. 2020
Fellowship for Master's Thesis awarded by German Foreign Office and DAAD *Bonn, Germany*

Golden Jubilee Award of Excellence March 2018
top 1/1000, exceptional academic and co-curricular performance in B.Sc. III year *Miranda House*

Prof. Savitri G.Burman Award of Excellence March 2017
top 1/1000, academic and co-curricular performance in B.Sc. II year *Miranda House*

G.Bhaskar Memorial Award Dec. 2014
top 12/1000, for being an exceptional student and possessing humane feelings for all *Delhi Public School*

Gold medal for academic excellence Dec. 2014
CGPA 8+ for 7 consecutive years *Delhi Public School*

Red Blazer and Red Tie Dec. 2014
Excellence in the field of Technology *Delhi Public School*

Additional Training

MPCDF-NVIDIA N Ways to GPU Bootcamp 19-20 Oct. 2021
Parallelization of code using OpenACC, Cuda C, OpenMP

MPCDF Python for HPC 4-5 Oct. 2021
Package creation, interfacing Cython with Python

Seminar Paper

"Using Generative-Discriminative learning in Neuroimaging for Interpretable Predictions" as part of seminar 'Visualization and Medical Image Analysis' presented in summer semester 2020 ***(Link)***.

Positions of Responsibility

President of Vidyut, the Physics Society, Miranda House, The University of Delhi 2016-17

Chief Editor of the Mathematical Society, Delhi Public School R.K. Puram 2014-15

Online Certifications

Introduction to Machine Learning Andrew NG, Coursera

Python for Data Science Microsoft,edX

Volunteering and Organization

Head organizer 2016-17

Vidyut, The Physics Society, Miranda House *New Delhi, India*

- Organized all major department events such as international seminars and Physics exhibitions
- Single-handedly planned and arranged a travel excursion for 100 students

Student Volunteer- BeinDemand Initiative Sept 2016

Udacity India *New Delhi, India*

- Increased Social Media reach by 800 people
- Event organization for promoting Udacity nanodegree program

Languages

English	Native or bilingual
Hindi	Native
German	Elementary

Relevant Coursework

Visual Computing in the Life Sciences	Technical Neural Networks	Graduate
Knowledge Discovery in Databases	Data Mining and Machine Learning in the Life Sciences	
Chemoinformatics	Molecular Modelling and Drug Design	
Real and complex analysis	Mathematical Physics	Undergraduate
Digital and Analog Electronic	Numerical Methods	

Appendix

Bernstein Center for Computational Neuroscience Conference Oct 2017

Attendee *Berlin, Germany*