CHIRAG VARUN SHUKLA

CONTACT

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🖥 chiragshukla.vercel.app

KEY SKILLS

IT SKILLS

- Python
(Pytorch, Scikit-Learn,
Pandas, Numpy, Matplotlib,
Pytorch-Geometric, Scipy)
- PostgreSQL
- Git

AREAS OF EXPERTISE

- Machine Learning
- Interpretability
- Causality
- Graph Neural Networks

LANGUAGES

- German (B2)
- English (Native)
- Hindi (Native)
- Bengali (Native)

INTERESTS

- Music Composition
- Creative Coding
- Digital Art
- Video Games

EDUCATION

SCIENTIFIC RESEARCHER • JANUARY 2021 – PRESENT

Bavarian AI Chair for Mathematical Foundations of Artificial Intelligence

LMU München • Munich, Germany

Research on *interpretability* and *causality* for graph neural networks.
Implementation of trustworthy graph neural network algorithms in *Python* using *Pytorch, Pytorch-Geometric, Pandas, Numpy, Matplotlib*.
Joint projects with industrial (*Covestro, Schott*) and public (*Harvard, Imperial College London*) institutions.

MASTER OF SCIENCE (MATHEMATICS) • JUNE 2017 – MAY 2019

Christ University • Bengaluru, India

Final Grade: 1.3 (*very good*)
Specialization in *graph theory* and *fluid mechanics.*

BACHELOR OF SCIENCE (PHYSICS, CHEMISTRY, MATHEMATICS) •
JUNE 2014 – MAY 2017

Christ University • Bengaluru, India

Final Grade: 1.6 (*good*)

PUBLICATIONS AND TALKS

ON THE INTERPLAY OF SUBSET SELECTION AND INFORMED GRAPH NEURAL NETWORKS • 2024

N. Breustedt, P.Climaco, J. Garcke, J. Hamaekers, G. Kutyniok, DA. Lorenz, R. Oerder,
C.V. Shukla • *Arxiv, Springer Book on Informed Machine Learning.*

TOWARDS TRAINING GNNS USING EXPLANATION DIRECTED MESSAGE PASSING • 2022

V. Giunchiglia*, **C.V. Shukla***, G. Gonzalez, C. Agarwal • *Learning on Graphs Conference 2022.*

THE ONSET OF RAYLEIGH-BENARD CONVECTION OF NANOPARTICLES DISPERSED IN A FERROFLUID (MASTER THESIS) • 2019
Thesis presentation at the *International Conference on Recent Trends in Mathematics (2018)*
and *International Conference on Emerging Trends in Computational Fluid Dynamics (2019).*

WORK EXPERIENCE

RESEARCH INTERN IN CRYPTOGRAPHY • APRIL 2018 - JUNE 2018

St.Xavier's College • Kolkata, India

Analysis of *Encryption schemes* and *secret-sharing schemes* in *Python* under Dr. Angshuman Das.

TEACHING ASSISTANT • JUNE 2017 - OCTOBER 2018

Christ University • Bengaluru, India

Taught *Python* at a beginner and intermediate level for *Fourier analysis, finite difference methods, financial mathematics,* and *graph theory*.

TEACHING ASSISTANT • JUNE 2017 - OCTOBER 2017

Domlur Government School • Bengaluru, India

Taught mathematics for grades 8 to 12 under the NGO Senior Citizens Bangalore.