

Rohit Singh Rathaur

COMPUTATIONAL SCIENCE · APPLIED MATHEMATICIAN

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“Be the change that you want to see in the world.”

Summary

Current 3rd-year of Mathematics & Computing student, passionate about open-source and development. My interests lie in the field of Artificial Intelligence and Machine Learning with a focus on Deep Learning, Probabilistic Models, Optimization, and Scientific Machine Learning. I see internships as a great opportunity to improve myself. I do not just get to apply my skills but will also get to acquire new ones. Super nerd who loves Vim, Linux and OS X and enjoys to customize all of the development environment. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises.

Work Experience

University of Bristol

Remote

RESEARCH INTERN

Nov. 2020 - Ongoing

- Scientific Machine Learning applying to dynamic (time-varying) problems with parameter dependence and non-linear behaviour.
- Specific applications of SciML and physics-based modelling.
- Using Machine Learning for root finding with control based continuation.

Laboratory for Computational Social Systems (LCS2)

IIIT Delhi, India

UNDERGRADUATE RESEARCH INTERN

Jul. 2020 - Dec. 2020

- Worked on Low Resourced Indian Language: Hindi to detect hostile posts.
- Prepared Data-set from Scratch. Collected Hindi tweets and articles from Twitter and Hindi news websites and labeled data set to categories in different Hostile category
- Implemented baselines using Machine Learning and Deep Learning techniques

Julia Computing - Scientific Machine Learning (SciML)

Remote

OPEN SOURCE DEVELOPER & CONTRIBUTOR

Jul. 2020 - Ongoing

- The ability to mix surrogate techniques with neural network code has become a practical issue. Surrogates.jl is a new surrogate modeling library hosted under the SciML umbrella which supports differentiable programming to allow for accelerated deep learning thanks to meta learning.
- My task was to improve Surrogates.jl by writing the new docs of state of the art optimization methods and novel surrogates taken from recent academic papers.
- Written new docs and fixed small issues for Surrogates.jl library

GirlScript Summer of Code

Remote

MENTOR

Aug. 2020 - Jun. 2020

- Worked under the supervision of Mr. Swapnil Agarwal.
- Helped the GSSoC participants to build a rather intelligent system using Rasa for Telegram
- Worked at The Vision and The Techtonica organisation on NLP and Deep Learning Technologies

Jindal Intellicom

Gurgaon, India

SUMMER INTERN

Jun. 2019 - Jul. 2019

- Collected quantitative and qualitative data from marketing campaigns
- Performed market analysis and research on competition.
- Supported the marketing team in daily administrative tasks

Education

Birla Institute of Technology, Mesra

Ranchi, JH., India

INTEGRATED MASTERS IN MATHEMATICS & COMPUTING

Jul. 2018 - Ongoing

Ravindra Nath Tagore Education Center Inter College

Orai, UP, India

SENIOR SECONDARY SCHOOL

May. 2017

- Senior Secondary School, UP Board, 81.0 %

Lieutenant Vikram Singh Inter College

Singhpura, UP, India

SECONDARY SCHOOL

May. 2014

- Senior Secondary School, UP Board, 85.83 %

Personal Projects

BetaProfile

- A nicer look at your GitHub Profile using Next.js, Chart.js, GitHub Polyglot, Styled Components, React Flip Move.
- Build a cool frontend for GitHub using GitHub API

Falling WordsHacktoberfest, 2019

- Coded a basic interactive game using HTML, CSS transitions and JavaScript
- I chose not to use the canvas element for it.
- I was curious to see how far I could get using basic web technologies.
- Gold winning entry to the Hacktoberfest.

NeuralNetDiffEq.jl, SciML (Open-Source Work)

- Contributing under the supervision of Mr. Christopher Rackauckas
- Solver package which consists neural network solvers for partial differential equations
- Physics-Informed Neural Network and Deep BSDE Solvers of Differential Equations
- Writing tutorials and fixing small issues

Honors & Awards

- District Qualifier in SOF: IMO, 2016. Secured City Rank: 18, State Rank: 265, International Rank: 4323
- UP Board Merit Award for outstanding performance in Secondary School, July 2014.
- Secured second position in Science Competition at state level organized by UP Government. Received a cash prize of worth 5000 INR.

Leadership & Extracurricular Activities

- Active contributor to Open Source Software. Notable organisations include SciML under The Julia Language.
- Won a "Special Mention" for "Surrogates.jl" under contribution section to fix issues.
- Founder & President at osDFS which is a special interest group that supports women and men who study or are interested in Computer and Information Science. We are the team of Independent developers & Researchers.
- Volunteered for United Nations
- Represent Internshala in my campus, and help my peers in order to make the best use of Internshala as well as gain essential skills in marketing, communication and enhance leadership qualities
- Joint General Secretary at Society for Data Science, BIT Mesra

Technical Skills

LANGUAGES	Node.js(Basic), C/C++(Intermediate), Python(Intermediate), JavaScript(Basic), Julia
DBMS	MySQL(Basic), MongoDB(Basic)
SYSTEMS / PLATFORMS	Docker(Basic), Kubernetes(Basic), Zeit(Intermediate), Heroku(Basic), Linux(Intermediate)
WEB TECHNOLOGIES	Bootstrap(Intermediate), Django(Basic), ReactJS(Basic), GraphQL(Basic)
TOOLS & TECHNOLOGIES	NLTK(Intermdediate), Scikit-Learn(Intermediate), Keras(Basic)
DL LIBRARY	PyTorch(Basic), Tensorflow(Basic)
SOFTWARE	LaTeX, MS Office