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| Research Interests | Mathematical language processing, efficient learning methods, mathematical reasoning and understanding, natural language processing, deep learning.   |
| Education          | <p><b>University of Illinois, Urbana-Champaign, IL, USA</b> 2021 - Present<br/><i>Ph.D. in Electrical and Computer Engineering</i></p> <p><b>Indian Institute of Technology Roorkee, Uttarakhand, India</b> 2009 - 2014<br/><i>B.Tech. in Electronics and Communication Engineering</i><br/><i>M.Tech. in Wireless Communication</i></p>  |
| Employment         | <p><b>University of Illinois, Urbana-Champaign, IL, USA</b> 2021 - Present<br/><i>Graduate Research Assistant</i><br/>I am studying ways to edit or update models in a parameter-efficient manner. Previously, I worked on representing mathematical expressions in a continuous vector space (similar to word2vec for natural text) and auto-formalization of linear programming problems.</p> <p><b>Myntra, Bengaluru, KA, India</b> 2019 - 2021<br/><i>Technical Lead</i><br/>I led a team of three people that managed the inventory systems of Myntra. I was responsible for maintaining and supporting the inventory systems as well as software architecture and design of new features. I was also responsible for building the technical roadmap for the team. The projects included scaling inventory systems to support 1000x traffic and salvaging the orphan inventory in Myntra warehouses.</p> <p><i>Senior Software Engineer</i> 2017 - 2019<br/>I worked in the tech team for warehouse management. The main projects included last-mile consolidation and multi-tenancy to enable multiple tenants on the existing systems. I also led a team of four people to overhaul the design and architecture of the stock transfer workflow. I acquired skills in system design and architecture, asynchronous frameworks, and team management.</p> <p><b>AIANash/Shoplane, Bengaluru, KA, India</b> 2015 - 2017<br/><i>Co-founder</i><br/>I worked in a team of three on creating a platform to improve online customer experience by predicting user intent. The initial idea was to develop a smart shopping experience employing artificial intelligence. It later shifted to creating a B2B artificial intelligence-driven analytics platform.</p> <p><b>Commonfloor, Bengaluru, KA, India</b> 2014 - 2015<br/><i>Software Development Engineer 1</i><br/>I was part of the revenue team in the real-estate vertical. I worked on lead sharing and pricing modules. I also developed a JavaScript plugin to track and analyze the impressions to find the ad performance on the product pages.</p> |
| Internships        | <p><b>IBM India Software Labs, Bengaluru, KA, India</b> 2013<br/><i>Extreme Blue Internship Program</i><br/>I worked on the timing analysis of digital circuits and created core data models for GLSM that were modular and multi-threadable.</p>   |

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|                             | <b>Defence Research and Development Organisation</b> , Bengaluru, KA, India<br><i>Summer Intern</i>   | 2012  |
|                             | I analyzed the helix slow-wave structure (SWS) and compared the results with HFSS results.  |   |
| Relevant Coursework         | Pattern Recognition, Mathematical Models of Language, Deep Learning for Computer Vision, Computer Vision, Probability Theory, Information and Communication Theory, Adaptive Filter Theory, Data Structures and Algorithms, Computer Networks.  |   |
| Awards                      | 1st, NL4Opt competition (subtask 2) at NeurIPS 2022 ( <a href="https://nl4opt.github.io">nl4opt.github.io</a> )   | 2022  |
| Publications                | <p>2. <b>Semantic Representations of Mathematical Expressions in a Continuous Vector Space</b><br/>Neeraj Gangwar, Nickvash Kani<br/><i>Transactions on Machine Learning Research (TMLR)</i>, 2023 [<a href="#">OpenReview</a>, <a href="#">arXiv</a>]</p> <p>1. <b>Highlighting Named Entities in Input for Auto-Formulation of Optimization Problems</b><br/>Neeraj Gangwar, Nickvash Kani<br/><i>International Conference on Intelligent Computer Mathematics (CICM)</i>, 2023 [<a href="#">Springer</a>, <a href="#">arXiv</a>]</p> |   |
| Teaching                    | <b>EC-362: Communication Systems Lab</b> , IIT Roorkee<br>Teaching Assistant with Prof. Debashis Ghosh  |   |
| Extra-Curricular Activities | Student Mentor at DIYA Research ( <a href="https://diya-research.org">diya-research.org</a> )<br>Member of SDSLabs ( <a href="https://sdslabs.co">sdslabs.co</a> ), IIT Roorkee<br>Coordinator of the Linux Group, IIT Roorkee<br>Member of the National Service Scheme (NSS), IIT Roorkee  | 2022<br>2010 - 2014<br>2011 - 2012<br>2009 - 2010 |
| Open Source                 | Contributed the following to <a href="#">scikit-learn</a> :<br>1. Repeated cross-validators (PR <a href="#">#8120</a> ).<br>2. Enhance the documentation for coverage error (PR <a href="#">#7915</a> ).  |   |