

EDUCATION	<b>University of Illinois at Urbana-Champaign</b> <i>Masters in Computer Science and Engineering</i> 2023 - 2024 <b>Kalinga Institute of Industrial Technology</b> <i>Bachelor of Technology, Computer Science and Engineering</i> 2017 - 2021 <ul style="list-style-type: none"><li>GPA: 9.64/10.00, Rank: Top 1%</li></ul>
RESEARCH INTERESTS	Operating systems, Machine Learning for Systems, Efficient Software for Systems
RESEARCH EXPERIENCE	<b>Making Linux Fly</b> <i>SysNet Group, UIUC</i> Prof. Tianyin Xu, Darko Marinov <ul style="list-style-type: none"><li>Worked on reliability of the coverage data generated by the “gcov” and “clang”, for debian packages like “grep”, “net-tools”, “apache2”</li></ul> <b>Rust for Systems</b> <i>SysNet Group, UIUC</i> Prof. Tianyin Xu <ul style="list-style-type: none"><li>Worked on a design centered around safe Rust which will eliminate the need for eBPF’s in-kernel verifier.</li></ul> <b>Meta Scheduler for IoT devices</b> <i>CS 537, UIUC</i> Prof. Klara Nahrstedt <ul style="list-style-type: none"><li>Developed a priority-based meta scheduler. Tasks gets assigned a “nice” value based on its type before being scheduled.</li></ul>
WORK EXPERIENCE	<b>Times of India Ltd.   Noida, India</b> 2021-2023 <ul style="list-style-type: none"><li>Designed a contextual ad recommendation engine using MiniLM BERT embeddings, boosting Click-Through Rate by 20% through improved targeting.</li><li>Built and optimized data pipelines using Spark, processing over 100 million records daily to support scalable and efficient data preparation for machine learning models.</li><li>Led the development of an internal MLOps platform and CI/CD pipelines, to enhance backend deployment reliability and efficiency.</li><li><b>Tech Stack:</b> Python, C, Spark, TensorFlow, Kafka, Docker, Agile methodologies.</li></ul>
PROJECTS	<b>Networking Optimization for IoT Mesh Networks</b> <i>CS 439, UIUC</i> <ul style="list-style-type: none"><li>Built a wireless mesh network using Raspberry Pis with the BATMAN protocol for outdoor connectivity.</li><li>Achieved up to 12 Mbps on the best link, with re-routing triggered approximately 60 seconds after packet loss.</li><li>Analyzed performance of routing metrics, including ETX and ETT, to assess network efficiency.</li></ul> <b>Virality Prediction</b> <i>TI Hack &amp; Hustle</i> <ul style="list-style-type: none"><li>Developed an LSTM model to predict the next potential viral video using data ingested from the YouTube v3 API, enabling proactive content recommendations.</li></ul>

AWARDS  
AND  
HONORS

- **Awarded \$4500**, Computational methods for Social Media, Prof Tess McNulty
- **Second Prize**, Boot.dev PokeApi hackathon
- **Second Prize**, East-Zonal National Tennis Championship
- **Lead**, Major Himalayan Trek, "Har ki Dun"

SKILLS

**Programming:** Python, C, C++, Unix Scripting.  
**Frameworks:** Node.js, Apache Spark, PyTorch, TensorFlow.  
**Tools:** AWS, Docker, Kubernetes, Redis