

Dev Singh

github.com/devksingh4
linkedin.com/in/dev-singh4/

devksingh.com
dev@devksingh.com

Summary

Student at the Illinois Mathematics and Science Academy seeking an industry or research position to build technical and professional skills. Experienced in machine learning, with research in computer vision, active/semi-supervised learning, and data sparsity. 5 years of programming experience, mainly in Python, C++, Javascript, and LaTeX. Proficient with Git/GitHub, Linux, and PyTorch. Strong software engineering background, including custom application development and deployment. Strong mathematical background, including multi-variable calculus and statistics.

Experience

- Founder and CTO, Epoch @ IMSA** Aug. 2019 – Present
High-Performance Computing (HPC) Cluster for IMSA Students Aurora, IL
- Create a new CUDA-enabled HPC cluster and oversee technological vision and overall reliability of the HPC cluster at both the hardware and software levels.
 - Contribute to various upstream open-source projects to improve the automated deployment of the SLURM job management software and other HPC software.
 - Worked with IMSA staff to write and improve Computer Science and Machine Learning curriculum.
- Student Researcher, TIMAN Group @ UIUC** Sep. 2020 – Present
Machine Learning Research Champaign, IL
- Conducting research with a high degree of autonomy at the University of Illinois in computer vision, specifically regarding active and semi-supervised learning, data sparsity, domain shift and lack of annotations to improve Deep Learning models for real-world scenarios.
 - Working to increase the accuracy and reduce the computational requirements of video classification tasks using self-supervised video transformer networks by contrasting frame-level local representations with the video-level global representations across different data modalities.
 - Advised by Prof. ChengXiang Zhai, UIUC and Assistant Prof. Ismini Lourentzou, Virginia Tech.
- Strategy and Application Development Lead, Titan Robotics** Aug. 2019 – Present
FRC Robotics Team Aurora, IL
- Created cross-platform applications to facilitate scouting data collection with a custom mobile app and backend REST API using React.JS, Node.JS, and MongoDB.
 - Developed *data analysis engine* using pandas, scikit-learn, and PyTorch.
 - Deployed applications at the 2020 Midwest Regional Competition, which played a critical role in the team's success through team metric calculation, movement analysis, and risk-reward analysis.
- Intern, Zakti Labs** May. 2019 – Present
Software Engineering and Systems Maintenance Naperville, IL
- Developed and deployed custom, client-focused solutions for high-risk businesses that increase work efficiency, provide cyber-security resilience, improve regulatory compliance, and facilitate secure exchange of confidential data under significant time constraints.

Education

Illinois Mathematics and Science Academy Aug. 2019 – Present
High School Aurora, IL

Skills and Tools

Programming Languages: Python, Node.JS, HTML/CSS/JS, C++
Frameworks: PyTorch, React, React Native, Express.JS
Technologies: MongoDB, Ansible, Git/GitHub, GNU/Linux, SLURM, LaTeX
Languages: English (native), Spanish (intermediate), Hindi (fluent)

Extracurricular

Open Source: Contributor to DevTools component, Mozilla Firefox project.

Hackathons:

- Winner, Teens Take on COVID Hackathon - Best Future Impact category 2020.
- Recipient, Outstanding Hacker Scholarship, Hack Chicago 2018.

Competitions:

- 2nd place, Network Design Competition, Illinois Business Professionals of America 2019.
- 3rd place, Computer Security Competition, Illinois Business Professionals of America 2019.