

YASHDEEP THORAT

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EDUCATION

University of Illinois Urbana-Champaign

Expected Dec 2023

Masters in Computer Science

GPA: 3.94/4.0

Birla Institute of Technology and Science, Pilani

Aug 2020

Bachelor of Engineering in Computer Science, Master of Science in Physics

WORK EXPERIENCE

Software Engineer

Aug 2020 - Aug 2022 (2 years)

Microsoft

Hyderabad, India

- Took ownership of design and development of usage metrics and the reporting dashboard for a notification platform. Created ETL pipelines using Azure Synapse analytics and a PowerBi report showcasing the platform's impact, which helped increase visibility and onboard more consumers.
- Developed a web application with Angular and .Net Core supported by SQL stored procedures to provide user management functionality to admin users, thus reducing engineering effort and allowing quick access provision.
- Created ARM templates for Service Fabric clusters and Helm charts for Kubernetes clusters. Configured and migrated various Azure resources like Azure Databricks, app services, service bus instances.
- Remodeled Linux and Windows-based applications into micro-services, deployed them in containers on a Kubernetes cluster, helped reduce Azure spend by \$34K (28%) and considerably simplified the deployment process.

INTERNSHIP/PART-TIME EXPERIENCE

Research Assistant

Aug 2022 - Present (9 months)

National Center for Supercomputing Applications

Urbana, IL, USA

- Created a Kubernetes-based job manager using the Sidecar pattern to run and monitor machine learning models to predict Enzyme Commission (EC) numbers along with a web interface and FastAPI application that has served 6000+ researchers to date. ([Try it here!](#))
- Built an interactive visualization/educational tool using Angular for chemists and students to construct molecules from building blocks as part of a [NSF funded project](#) to accelerate automated chemical synthesis and advance the discovery and manufacture of novel materials. ([Try it!](#))

Software Intern

July 2019 - Dec 2019 (6 months)

Qubole

Bangalore, India

- Designed Directed Acyclic Graphs using Apache Airflow to create data pipelines with Hive and Spark operators and contributed to building a [cost attribution model](#) based on CPU usage metrics on a heterogeneous cluster - allowing customers to monitor and reduce cost of their big-data queries.

PROJECTS

Optimizing CNN implementation on NVIDIA GPUs

Oct 2022 - Dec 2022

Implemented various GPU optimizations on the forward pass layer including Input unrolling, Tiled matrix multiplication, input channel reduction to parallelize computation along with memory coalescing - resulting in a 30% reduction in kernel execution time. Leveraged Nsight Compute to profile results and analyze memory workload and bottlenecks.

Multi-page edit functionality for Wikis

May 2018 - Aug 2018

Developed an interface leveraging JavaScript and PHP for the [MediaWiki Page Forms extension](#), used by 1000+ websites(wikis). The feature allows wiki admins to edit, create and rename multiple pages in a wiki through a single spreadsheet-like interface. ([Try it here](#))

***Mentored** a student in building a [calendar interface](#) to edit wiki pages. Evaluated applicant proposals and guided the student in planning and implementation of the feature.

TECHINICAL SKILLS

Programming Languages: C++, Python, JavaScript, SQL, C#

Frameworks, Tools: Angular, React, CUDA, Kubernetes, Azure Synapse/Azure Data Factory, Apache Airflow, Apache Spark, Git, Power BI