

Aditya Vikram

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Education

Georgia Institute of Technology, Atlanta, GA

GPA: 4.0

M.S. in Computer Science, Specialization: Computing Systems

Aug 2022 - May 2024 (Expected)

- Coursework: Advanced Operating Systems, Computer Networks, Computer Vision, Natural Language, Game AI, Applied Cryptography

Indian Institute of Technology Kanpur, India

CGPA: 9.7/10

B.Tech. in Electrical Engineering, Minor in CSE (Algorithms and Machine Learning)

Jul 2014 - Jun 2018

- Relevant coursework: Algorithms-II, Randomized Algorithms, Machine Learning, Probabilistic Machine Learning, Digital Image Processing

Experience

Georgia Institute of Technology

Atlanta, GA, USA

Graduate Teaching Assistant, Machine Learning (CS 7641)

Oct 2022 - Present

- Assisted in teaching CS 7641: supplemented class lectures, clarified students' doubts and provided feedback on their experiments and analyses

Adobe Inc.

Bengaluru, India

Computer Scientist - I

July 2018 - Aug 2022

- Received two Spot Awards and a Special Contribution Award for exemplary contributions to multiple critical projects
- Key contributor in the design and implementation of the extensibility platform for Creative Cloud web. Resulted in a patent (US Patent No. 11,907,646) issued describing the lifecycle and seamless integration of third-party add-ons within an iframe
- Implemented a web workflow to request access to cloud documents for Creative Cloud Spaces, leveraging REST APIs and built with React and Redux
- Conceived a modularized architecture for an iOS library using CocoaPods, which reduced multiple iOS apps' size by 5 MB, leading to faster downloads
- Added efficient analytics support for a Universal Windows Platform (UWP) C++ SDK, leading to fixes for 15% of the observed SDK crashes
- Created a retry-reconnect mechanism to address the flaky UWP app-service connection, resulting in a 10% reduction in reported crashes
- Optimized performance and launch time of paywalls in an iOS SDK by 50% by caching purchase metadata, resulting in improved response time

Adobe Inc.

Bengaluru, India

Research Intern

May 2017 - July 2017

- Collaborated in ideation and surveying existing work within the problem area of Virtual Reality (VR) websites, which led to the selection of the problem statement: "Visualizing and designing a navigable interface for a large-scale image gallery on a 360° canvas"
- Formed an image similarity graph from a 150,000 image corpus and introduced a tag-based image search intuitive to VR users. Proposed a novel layout for a VR gallery and demonstrated it on Samsung Gear VR. This project was later showcased at Adobe's internal TechSummit 2019

Selected Projects

Question-Answering using a Key-Value Memory Network

Prof. Mark Riedl, Georgia Tech

Course Project: Natural Language

Aug 2023 - Dec 2023

- Trained a Key-Value Memory Network for question-answering using 50k question-answers generated from relations in the Wikipedia Biography Dataset
- Incorporated a Sentence Transformer model to encode questions for improved semantic understanding, achieved 89.8% answering accuracy

A Predictive and Visualization Tool for Filmmakers Report]

Prof. Polo Chau, Georgia Tech

Course Project: Data and Visual Analytics

Aug 2023 - Dec 2023

- Proposed a neural network to predict country-wise revenue for movies using BERT encoding of their plot overviews, genres, cast and ratings
- Built a Flask webapp for filmmakers using d3.js to visualize the predicted revenue per country and categorize audience based on their ratings
- Performed automated real-time genre prediction from the plot entered using a DistilBERT model with micro-averaged ROC-AUC score of 0.93

GTStore Report] Code]

Prof. Ada Gavrilovska, Georgia Tech

Course Project: Advanced Operating Systems

Apr 2023

- Designed a distributed key-value store that provides fault-tolerance by data replication, and realized it using gRPC in C++
- Implemented a data partitioning scheme to ensure even load distribution and a heartbeat mechanism for load-balancing on storage failures
- Assessed the system's throughput (around 600 ops/s) and showed that it depends hyperbolically on the number of storage replicas

GTFileSystem: A recoverable file system Report] Code]

Prof. Ada Gavrilovska, Georgia Tech

Course Project: Advanced Operating Systems

Mar 2023 - Apr 2023

- Authored a File System library with the goal of data persistence and crash recovery using in-memory logs and disk logging
- Developed a transaction system allowing commit, abort and flush ops, a read API for data retrieval and wrote a test suite with near-100% code coverage

TinyFile Service and Client Report] Code]

Prof. Ada Gavrilovska, Georgia Tech

Course Project: Advanced Operating Systems

Feb 2023 - Mar 2023

- Designed the TinyFile service and client library with sync and async APIs for concurrent file compression while adhering to Xen's Dom0 paradigm
- Realized synchronization with System-V IPC and semaphores, and used shared memory segments for efficient data transfer between service and clients
- Determined the optimal shared memory configuration (size: 4096-8192 bytes, count: 5) for minimizing client-side service time

Technical Skills

Languages

C++, Python, TypeScript, Objective-C, JavaScript, Swift, SQL, Solidity, Shell, 

Frameworks and Tools

ReactJS, NodeJS, Redux, gRPC, CMake, CocoaPods, PyTorch, scikit-learn, TensorFlow, Keras, Pandas, Git, Docker