

# Druva Kumar Gunda

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Highly motivated and adaptable entry-level software engineer, currently pursuing a master's degree in computer science from Texas A&M University; eager to leverage academic knowledge and skills to contribute to innovative software solutions.

## QUALIFICATIONS SUMMARY

### Full-Stack Development

- Instrumental in designing and developing web applications across the entire software development lifecycle; proficient in both front-end and back-end technologies.

### Troubleshooting & Debugging

- Skilled in identifying and resolving complex technical issues promptly through exceptional problem-solving abilities and analytical thinking skills.

### Teamwork & Collaboration

- Excellent communication and interpersonal skills, able to work collaboratively with cross-functional teams to ensure project success.

## EDUCATION

### MSc in Computer Science (GPA:4.0)

Texas A&M University, College Station, TX, Jan 2023- Dec 2024

### B.Tech in Computer Science and Engineering (GPA 8.75/10)

National Institute of Technology, Raipur, IN, Aug 2017 - May 2021

## TECHNICAL SKILLS

**Coding:** C/C++, Python, Java, JavaScript, Typescript, SQL, Ruby on Rails

**Libraries:** JQuery, NodeJs, Boost, Numpy, Pandas, Matplotlib, Scikit-Learn, Seaborn

**Frameworks:** Keras, TensorFlow, Pytorch, fast.ai, AngularJs, Jasmine

**Tools:** Docker, Singularity, Github, Perforce, Postman, Slurm Manager, JAMS Scheduler, MySQL, Postgresql

**Deep Learning Techniques:** Data Parallelism, Model Parallelism, and Tensor Parallelism

## VOLUNTEER EXPERIENCE

Mentor, k12 Students in GenCyber Camp, Texas A&M University, 2023

Assisted Dr.Zhenuha He with Intelligence Processing Units (IPU) Tutorial, PEARC Conference, Portland, 2023

## EXPERIENCE HIGHLIGHTS

### Texas A&M University, College Station, TX

Aug 2023 - Present

#### Graduate Research Assistant - High-Performance Resource Computing

- Conducted performance assessments for diverse accelerators across four Texas A&M University supercomputers.
- Initiated job execution on 15 slurm cluster nodes utilizing Singularity images to support Large Language Models such as BERT and GPT-2.
- Utilized three distinct distributed deep learning strategies: Data Parallelism, Model Parallelism, and Tensor Parallelism.
- Executed comprehensive scaling studies on 30 GPUs across single and multi-node configurations.

### Factset, Hyderabad, IN

Jun 2021 - Dec 2022

#### Software Engineer - II

- Achieved a 50 ms reduction in API latency through the introduction of new CPP and Python endpoints and the elimination of data hub locks.
- Engineered an application for modeling securities linked to investment choices, yielding a 2x enhancement in Customer Retention.
- Transferred Factset Deployment pipelines from Jenkins to GitHub Actions, leading to a 60% reduction in application deployment time.
- Overhauled the user interface of a portfolio enrichment and interactive request monitoring application for fixed-income analytics.

#### Software Engineer - I

- Created an AngularJs library to streamline application interactions, achieving a 4x reduction in dependencies.
- Enhanced application builds for modeling interest rate shocks, resulting in a 2x acceleration of UI rendering.
- Employed the JAMS grid scheduler to initiate portfolio analytics and actuarial scenario jobs, elevating customer satisfaction by 30%.

## ACADEMIC PROJECTS

### CodeJudge

- Built a Ruby on Rails web application for automated student coding assignment grading, factoring in the number of attempts and their types.
- Drove a 70% decrease in the need for manual assessment in determining problem difficulty levels.

### Implementing and Analyzing Instance Segmentation in Plant Disease Detection

- Engineered a deep learning model leveraging Facebook's Detectron2 Mask R-CNN and ResNet-50 with Feature Pyramid Network (FPN) as the backbone network to classify segmented plant images, enhancing accuracy from 79% to 86% and outperforming the prior benchmark model.

### Disease Detection in Tomato Plants Using Residual Networks

- Employed a Residual Neural Network (ResNet-18) utilizing CNN for Tomato leaf image processing and disease category identification via transfer learning, attaining a peak accuracy of 83%, surpassing the previous benchmark model's 75% accuracy.

### Photography Contest Website

- Created a Java-based photography contest website with Front-End using HTML, CSS, and JS, and Back-End utilizing Servlets, JSPs, and a MongoDB database for blob image storage.