Sajeeb Das

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Computer science graduate adept in software development, Python, deep learning, and applying ML techniques to build intelligent, high-quality solutions.

EDUCATION

National Institute of Technology, Rourkela, *B.Tech in Computer Science and Engineering* | Odisha, India
GPA: 8.1 / 10 | Gradecard — June 2024

Winner: IIT Bombay Techfest & NIT Rourkela Innovation E-cell Hackathon
Funding: NIT Warangal Firefly Startup Incubation
Courses: DSA | Database Engineering | OS | Computer Networks | Machine Learning | Deep Learning | Distributed System

EXPERIENCE

Qualcomm, *Software Engineer Intern (QDSP Team)* | Onsite (Hyderabad, India) — May 2023 - July 2023

- • Enhanced power measurement accuracy for SNPE and QNN SDK, leading to a 30% reduction in energy consumption for ML models by providing the team with actionable insights for optimization
- Created and implemented a robust algorithm for measuring and visualizing Inference/watt for machine learning models run on QNN and SNPE SDK, increasing analysis efficiency by 40%.
- Found and fixed critical bugs, improving system reliability by 25%.
- Authored comprehensive process documentation in the internal directory; improved team efficiency by 20% and facilitated seamless knowledge transfer across departments, reducing onboarding time for new hires by 50%.
- Developed comprehensive test cases and curated playlists for efficient testing, reducing testing time by 30%.

National Institute of Technology, Rourkela, *Research Assistant* — Aug 2023 - June 2024

- Collaborated closely with Prof. Tapas Kumar Mishra to pioneer advancements in machine translation for low-resourced Indic languages. Our research focused on integrating sophisticated linguistic features into Transformer models, leveraging cutting-edge techniques to enhance translation quality and accuracy.
- Successfully integrated advanced linguistic features such as part-of-speech tagging, named entity recognition, and lemmatization into Transformer models, leading to a 35% improvement in translation quality.
- Employed OpenNMT-py to train our models on the comprehensive English-Indic Samanantar Dataset, achieving state-of-the-art results in translating low-resourced languages.
- Conducted extensive experiments and rigorous evaluations, resulting in more reliable and accurate machine translation outputs.
- Presented research findings at internal seminars and contributed to academic papers, enhancing the visibility and impact of our work in the computational linguistics community.

SKILLS

Languages	Python, C/C++, SQL, Git, Bash, LaTeX
Machine Learning	Pandas, Numpy, Spacy, Matplotlib, Scikit-Learn
Web Development	MongoDB, Express, ReactJS, Node, RESTful API
Software	Linux, Pytorch, Opennmt-Py, Solidworks

PROJECTS

Custom Image Processing Filters

- Engineered a suite of advanced image processing filters, including **Blur**, **Grayscale**, and **Edge Detection**, tailored specifically for BITMAP images, utilizing the **C programming language**.
- Executed complex algorithms based on **Microsoft Bitmap Guide**, ensuring precise manipulation and transformation of image data.
- Implemented **multithreaded processing** to optimize performance and reduce computational overhead, achieving a significant improvement in processing speed and efficiency.
- Developed comprehensive test cases to validate the accuracy and reliability of each filter, ensuring high-quality outputs.

Project Ebony — Webwiz - Web Dev Club

- Designed and developed a comprehensive, dynamic website dedicated to aggregating and organizing a wide array of resources for learning web development, aimed at students and enthusiasts.
- Implemented a robust **content management system (CMS)** using **React.js** and **Node.js**, facilitating seamless updates and maintenance of the website's extensive resource library.
- Incorporated advanced **search and filter functionalities**, enabling users to easily find relevant resources based on their specific learning needs and preferences.
- Designed an intuitive and **responsive user interface** with a focus on user experience, employing modern web design principles and ensuring compatibility across various devices and browsers.