Aditya Jagadish Bhat

adityabhat2003@yahoo.com | +91 9325530623 | linkedin.com/in/aditya-j-bhat

EDUCATION

BITS Pilani, K. K. Birla Goa Campus *2021 – 2025*

- B.E. Computer Science with Minor in Data Science: **CGPA 9.56/10**
- **Electives:** Reinforcement Learning, Machine Learning, Deep Learning, Cloud Computing

EXPERIENCE

Software Engineer, Rippling *Jun 2025 – Present*

- Working on the **Globalization team** in the Platform department to improve internationalization efforts.
- Develop CI/CD pipelines checks using **Buildkite**, increasing reliability and reducing build times.

Research Intern, CAMMA, University of Strasbourg, CNRS *Jul 2024 – Dec 2024*

- Developed **text-to-image diffusion models** with mixed distribution estimation for surgical image synthesis.
- Proposed a **text-image fusion** method with **mixed-precision training**, optimizing image-mask generation.

Student Researcher, BITS Pilani & Vrije Universiteit Amsterdam *Aug 2023 – Jun 2025*

- Analyzed **700K+ CDN latency measurements** using RIPE Atlas API to study edge network stability.
- Applied **change point detection** (Ranks, Bootstrap, HMM-HDP), discovering **3× longer stable regions** than prior studies.

Research Intern, CSIR-CEERI, Pilani *May 2023 – Jul 2023*

- Deployed **MobileNet-v2** on **Arduino Nano 33 BLE** using **TensorFlow Lite**, achieving **real-time inference**.
- Reduced model size by **75%** through post-training quantization, enabling low-power on-device AI.

Teaching Assistant (5 courses), BITS Pilani *Feb 2023 – May 2025*

- Conducted tutorials and evaluated **300+ students** across ML, Compilers, Networks, Discrete Structures.
- Built an **autograder** for **1000+ students** in Computer Programming, significantly reducing grading effort.

PROJECTS

Distributed Word Count on Cloud and On-Premise Hadoop Clusters

- Deployed a 4-node **Hadoop cluster** on **Google Dataproc** and on-premise to process **4GB+ Wikipedia data**.
- Implemented **MapReduce with combiners**, reducing execution time from **6 min to 1.5 min** (**4× faster**).

Scalable Prime Count Service with GCP Cloud Functions & Kubernetes

- Built cloud service to compute $\pi(x)$ using **GCP Functions** for small queries ($x < 1$M) and **GKE** for larger tasks.
- Added **autoscaling and Redis caching**, delivering **5–100× faster responses** and reducing costs ($\tilde{\$}$112/month for 1M queries).

Code Autograder for CS F111

- Developed a **Python-based autograder** with **cheating detection**, automating grading for **1,000+ students**.
- Saves **500+ TA hours per semester** and remains in active departmental use.

PUBLICATIONS & PREPRINTS

Controllable Diffusion Model for Simultaneous Image and Mask Generation. R. Bose*, C. Nwoye*, **A. Bhat***, N. Padoy. arXiv:2503.19661, 2025

SimGen: A Diffusion-Based Framework for Surgical Image and Segmentation Mask Generation. **A. Bhat***, R. Bose*, C. Nwoye, N. Padoy. arXiv:2501.09008, 2025

On the Constancy of Latency at the Internet's Edge. **A. Bhat**, V. Ganatra, A. Shaha, B. Chandrasekaran, V. Naik. Presented at *TMA 2025*, Copenhagen

SKILLS

Programming: Python, C++ | **ML & Data:** NumPy, Pandas, OpenCV, PyTorch | **Cloud & DevOps:** Google Cloud Platform, Docker, Kubernetes, Hadoop | **Tools:** Git, LaTeX

AWARDS & ACHIEVEMENTS

CMMRS Germany 2025 | IPCD Travel Grant | Institute Merit Scholarship (Top 1%) | WorldQuant Research Consultant (Gold) | KVPY Fellow (AIR 757) | Authored Technical Blog for Internet Society (ISOC)