Aniruddha Bala

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EDUCATION

- **Indian Institute of Science, Bangalore** — *Jul 2018 - Aug 2020*
  MTech, Computational and Data Sciences — CGPA: 8.3/10
- **National Institute of Technology, Warangal** — *Jul 2013 - Aug 2017*
  BTech, Electrical and Electronics Engineering — CGPA: 9.03/10

TECHNICAL SKILLS

- **Programming**: Python, C, C++, Java, SQL, SPARQL
- **Software Tools/Frameworks**: PyTorch, TensorFlow, PySpark, OpenMP, CUDA, LaTeX

EXPERIENCE

- **Samsung R&D Institute Bangalore** — *Jan 2024 - Present*
  Lead Engineer, Visual Intelligence Team — Bangalore

  – Led the research on Instruction-Based Image Editing, creating GalaxyEdit, a large-scale dataset with 1M paired images and edit instructions. Designed an adapter based on ControlNet-xs improving instruction-based object addition/removal performance.
  – Developed LoRA adapters for Samsung's Gauss-IS model enabling object addition and removal on-device.
  – Implemented a mask prediction solution to improve the inpainting quality in the Large Vision Models package within Photo Editor. Commercialized in Galaxy S25.

- **Samsung R&D Institute Bangalore** — *Jan 2021 - Jan 2024*
  Lead Engineer, Multi-Modal Intelligence Team — Bangalore

  – Led the development of the Inference Engine for an on-device Personal-Knowledge Graph, enabling cross-app data linking and inference.
  – Developed SmartCapture in collaboration with the On-Device AI team, analyzing text in images/screenshots to extract contextual information (e.g. locations, coupon codes). Commercialized in Galaxy S24.

- **Oracle India** — *Jun 2017 - Jul 2018*
  Application Engineer, Global Trade Management — Hyderabad

  – Developed key functionalities for the Global Trade Management platform, including Trade Agreement, Unit of Measurement Conversion, Compliance Rule, and Product Classification.
  – Collaborated with cross-functional teams to enhance application performance and ensure compliance with global trade regulations.

PUBLICATIONS

- **Protecting Images from Malicious I2V Generation Via Temporal Freezing** — *ICASSP 2026 (Under Review)*
  Rohit Chowdhury*, **Aniruddha Bala***, Rohan Jaiswal, Siddharth Roheda — Paper Link

- **Node-VNN: A Piecewise Continuous Volterra Neural Network** — *ICASSP 2026 (Under Review)*
  Siddharth Roheda ,**Aniruddha Bala**, Rohit Chowdhury, Rohan Jaiswal — Paper Link

- **GalaxyEdit: Large-Scale Image Editing Dataset with Enhanced Diffusion Adapter** — *ICASSP 2026 (Under Review)*
  Rohan Jaiswal*, **Aniruddha Bala***, Siddharth Roheda, Rohit Chowdhury — Paper Link

- **CART: Compositional AutoRegressive Transformer for Image Generation** — *AAAI 2026 (Under Review)*
  Siddharth Roheda , Rohit Chowdhury, **Aniruddha Bala**, Rohan Jaiswal, — Paper Link

- **DCT-Shield: A Robust Frequency Domain Defense against Malicious Image Editing** — *ICCV 2025 (Highlight)*
  Aniruddha Bala*, Rohit Chowdhury*, Rohan Jaiswal, Siddharth Roheda — Paper Link

- **Multi-Hop Relation Aware Representations for Inductive Knowledge Graphs** — *ICON, 2023*
  Aniruddha Bala*, Ankit Sharma*, Shlok Sharma, Pinaki Bhaskar — Paper Link

- **An On-device Deep Learning Approach for Attribute Extraction from Unstructured Text** — *ICON, 2021*
  Mahesh Gorijala, **Aniruddha Bala**, Pinaki Bhaskar, Krishnaditya, Vikram Mupparthi — Paper Link

- **Decomposing camera and object motion for an improved video sequence prediction** — *Prereg@NeurIPS 2020*
  Meenakshi Sarkar, Debasish Ghose, **Aniruddha Bala** — Paper Link

Achievements and Extracurriculars

- Received the **Samsung Best Paper Award** for our paper DCT-Shield
- Received the **Samsung Excellence Award** for my contributions in development of the ScreenAI solution
- Co-founding member and trainer of Samsung's **Deep Blue AI/ML education program**
- Received **Institute Merit Scholarship** at NIT Warangal (Top 10%)
- Served as the **Vice-President of ACM Student Chapter** at NIT Warangal