Aditya Wagh

Curriculum Vitae

adityamwagh@gmail.com
adityamwagh.github.io
adityamwagh
adityamwagh
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EDUCATION

Sep '21 - Jun '23 **New York University**,
Master of Science in Mechatronics & Robotics.

Aug '15 - May '19 **Birla Institute of Technology & Science, Pilani**,
Bachelor of Engineering in Electronics and Instrumentation.

EXPERIENCE

Professional

May '17 - Jul '17 **The Ramco Cements Ltd**, Jaggayapeta, India.
Software Engineering Intern
ADVISOR: Mr. Chengal Rao
FOCUS: Full-stack design of an inventory management web-application.

May '18 – Jul '18 **Apras Polymers & Engineering Co.Pvt. Ltd**, Nashik, India.
Software Engineering Intern
ADVISOR: Mr. Prakash Dhanokar
FOCUS: Modern and responsive business website design.

Academic

Dec '18 - May '19 **Central Electronics Engineering Research Institute**, Pilani, India.
Undergraduate Research Assistant
ADVISOR: Dr. Sumeet Saurav
FOCUS: Convolutional neural network models for orientation-aware object detection

Jul '18 - Dec '18 **Central Electronics Engineering Research Institute**, Pilani, India.
Undergraduate Research Intern
ADVISOR: Dr. Sumeet Saurav
FOCUS: Instance segmentation models for real-time power-cable fault detection

Aug '17 - Dec '17 **Birla Institute of Technology & Science, Pilani**, Pilani, India.
Undergraduate Research Assistant
ADVISOR: Prof. Anu Gupta
FOCUS: Design of fault tolerant Static RAM cells.

PROJECTS

2017 **Variable Computation in Recurrent Neural Networks:**

- Modified a RNN model to reduce the amount of required computation by ignoring redundant sequences.
- Implemented a scheduler for the RNN unit which decides the computation required at the current time-step.
- Reduced the number of operations for bit-level language modelling by 50%.

2019 **RISC Processor Design using HDL**

- Designed, programmed and tested 16-bit multi-cycle processor for a given set of instructions and constraints.
- Followed modular approach for programming the processor and its test bench, by dividing it into sub-modules such as memory, register file, ALU and control unit.

2018 **FIR filter design using an adjustable window function.**

- Implemented an adjustable window function based on the combination of Blackman and Lanczos window.
- Achieved a 75% better side-lobe roll off ratio than Lanczos window.

TECHNICAL SKILLS

Languages Python · C · C++ · MATLAB · Shell · LaTeX · HTML · CSS · JavaScript

Frameworks Keras · TensorFlow · PyTorch · OpenCV · Bootstrap · Git

Softwares Simulink · LTspice · LabVIEW · EagleCAD · Proteus

RELEVANT COURSEWORK

Mathematics Linear Algebra · Vector Calculus · Differential Equations · Probability & Statistics · Discrete Mathematics

Data Science Machine Learning · Deep Learning · TensorFlow in Practice · Mathematics for Machine Learning · Neural Networks & Fuzzy Logic

EECS Control systems · Signals & Systems · Digital Signal Processing · Digital Electronics · Analog Electronics · Microprocessors & Interfacing

ACHIEVEMENTS

2015 Amongst the top 1.5% students in the India in Joint Entrance Examination - Mains

2015 Amongst the top 5% students in the India in Joint Entrance Examination - Advanced

2014 Amongst the top 300 students selected for INPhO (Indian National Physics Olympiad)

EXTRACURRICULARS

Jul '17 - May '18 **IEEE Student Branch, Birla Institute of Technology & Science, Pilani**,
Vice-Chairperson, Pilani, India.
Organized technical workshops, talks, and various student events throughout the year.

Aug '18 - Jul '19 **Society for Students Mess Services, Birla Institute of Technology & Science, Pilani**,
Governing Council Member, Pilani, India.
Responsible for drafting the food menu and coordinating with third party contractors to prepare food. Also drafted a quality, health & safety environment framework and conducted regular safety audits.

REFERENCES

Dr. Syed Zafaruddin, Assistant Professor, Birla Institute of Technology & Science, Pilani

Dr. Sumeet Saurav, Scientist, Intelligent Systems Group, Central Electronics Engineering Research Institute Pilani