Aditya Wagh

Curriculum Vitae

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https://adityawagh.ml
adityamwagh

Education

2015 - 2019 **BITS Pilani**, *B.E.(Hons) in Electronics and Instrumentation Engineering*.

2003 - 2015 **LVH College**, *Higher Secondary Certificate*, Nashik, India.
Marks: 85.69%

2009 - 2013 **Symbiosis School**, *All India Secondary School Examination*.
GPA: 10/10

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
Supervisor: 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: ConvNet models for orientation-aware object detection on aerial images.

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 using autonomous drones.

Aug '17 - Dec '17 **BITS 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

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

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

EECS Control systems · Signals & Systems · Digital Signal Processing · Digital Electronics · Computer Architecture · 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, BITS 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, BITS 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, BITS Pilani

Dr. Sumeet Saurav, Scientist, Intelligent Systems Group, CEERI Pilani