

Vedant Tripathi

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 [vedant-tripathi-02](https://www.linkedin.com/company/vedant-tripathi-02) |  [vedant-tripathi-codes](https://github.com/vedant-tripathi-codes)

RESEARCH INTERESTS

Computer Architecture, High Performance Computing, System-On-Chip(SoC), Machine Learning

EDUCATION

BITS Pilani

B.E. Electrical and Electronics Engineering, M.Sc. Physics
CGPA: 8.64/10

2019 - 2024

Pilani, Rajasthan

PROFESSIONAL EXPERIENCE

ARM

Graduate Engineer

Jan 2024 - Present

Bangalore, India

- Validated Linux payloads at multi-**SoC** level to ensure data concurrency and correctness
- Developed a unified framework for bare-metal drivers to verify critical **PCIe** features such as ATS, DMA, P2P and MSI
- Engineered a command line tool and website to automate regression testing and provide intelligent debugging data

Société Générale

Software Engineering Intern

June 2023 - July 2023

Bangalore, India

- Enhanced an invoice parser tool with a color-coded data visualization feature
- Created a drag-and-drop application to generate user interfaces wired to relevant API calls

RESEARCH EXPERIENCE

Study of electronic band structure of Perovskite materials

Thesis | Supervised by Dr. Debashis Bandyopadhyay

Aug 2023 - Dec 2023

Pilani, India

- Used Density Functional Theory(DFT) for in-depth analysis of LaGaO_3 's electronic parameters
- Implemented a computational workflow by scripting the parsing of large-scale DFT datasets
- Provided valuable insights for applications in solid-state electronics and clean energy

Application of AI in wireless communications

Literature Review | Supervised by Dr. Sandeep Joshi

Aug 2022 - Dec 2022

Pilani, India

- Analyzed Deep CNNs and Conditional GANs for channel estimation in wireless networks
- Proposed a transfer learning approach to model site-specific channels to reduce training time without decreasing the estimation accuracy.

PROJECTS

Detection of Fruit Diseases via Object Detection Techniques

Project Report | Supervised by Dr. Dhiraj Sangwan

Jun 2021 - Jul 2021

Pilani, India

- Created and annotated a dataset of healthy and diseased apples by web-crawling
- Reduced industrial scale food waste by utilizing **CycleGAN** to generate numerous images with simulated defects to help train the disease detection model

INWEON GRAMS

Website | Tools: Django

Jun 2021 - Jul 2021

Remote

- Alleviated price disparity in farmers markets by developing a backend integrated with **Machine Learning** models, for the detailed analysis of grain quality

SKILLS

- Programming Languages:** C, C++, Python, Javascript, Java, MATLAB
- Hardware Technologies:** System Verification, System On Chip(SoC), ARM Architecture, Embedded Systems, Device Drivers, FPGA
- Protocols:** UART, PCIe, DDR
- Web Technologies:** Django, Flask, HTML, CSS
- Database Systems:** MySQL, PostgreSQL

SELECTED COURSES

- **Computer Programming** CS F111
- **Object Oriented Programming** CS F213
- **Operating Systems** CS F372
- **Digital Design** EEE F215
- **Microprocessors and Interfacing** EEE F241
- **Digital Image Processing** EEE F435
- **Communication Systems** EEE F311
- **Optimization** MATH F212
- **Computational Physics** PHY F313

HONORS AND AWARDS

Merit-Cum-Need Scholarship

BITS Pilani

2019-2024

Pilani, India

- Awarded **40%** Tuition waiver throughout my degree for excellent academic performance

Amazon ML Summer School

Amazon

July 2022

Remote

- Selected from **60k+** applicants to attend a **Machine Learning** bootcamp by industry experts

VOLUNTEER EXPERIENCE

APAC region Co-chair

Graduate Committee, ARM

June 2025 - Present

Bangalore, India

- Coordinated a variety of social and professional development events aimed at fostering a strong sense of **community** and **collaboration** among fresh college graduates

Core Member

Creative Activities Club, BITS Pilani

Aug 2019 - May 2022

Pilani, India

- Cultivated artistic development for **500+** students by organizing national art competitions