Raja Babu

Indian Institute of Technology, Kanpur

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Education

Indian Institute of Technology, Kanpur *Uttar Pradesh, India*

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

Internship

Tomsk Polytechnic University, Russia *Prof. Sergey Axynov*

RESEARCH INTERN *Dec'2019 - Jan'2020*

- Developed **Deep Learning** application for **Real-Time Semantic Segmentation** of aerial images and road scenarios.
- Used **OpenCV** to process the **Vaihingen, CamVid** & **Cityscapes** datasets, and trained the **ENet** Architecture (Deep Neural Network).
- Segmented the images for various classes, such as Building, Road, Tree, Sky, Car, Pedestrian, Sidewalk, Low Vegetation, and Fence.
- Achieved the Mean Intersection-Over-Union (IoU) of 67%. **Awarded as the Best Intern Student with Excellent Grade.**

Rozi Shiksha Kendra (RSK), IIT Kanpur ↗ *Prof. Sandeep Sangal*

PROJECT MANAGER + BACKEND DEVELOPER (ASPIREBASE TECHNOLOGIES PVT. LTD.) *Sep'2020 - Mar'2021*

- Developed a visually aesthetic and function-rich **Content Management System (CMS)** using **Django, ReactJS & RESTful API**.
- Liaised with front-end developers, designer, and the client to ensure proper communication and regular updates.
- **Managed time-sensitive updates** of CentOS, Apache, MySQL, and ensured the web server's overall proper functioning.

Projects

Notes Gallery *Self-Project*

HTTPS://WWW.THERAJABABU.COM/NOTESGALLERY *May. 2017 - Oct. 2020*

- Developed a secure **Web Application** using **Django**, which facilitates students to share and search for academic materials.
- Deployed the project on **Amazon Web Service**, and configured the **Ubuntu** Server with **Apache** & **MySQL** Server.
- As per Google Analytics, it received **4,00,000+ hits**, and with a **Bounce Rate of 27%**.

Brain-Inspired Robotics *Course-Project*

PROF. HIROAKI WAGATSUMA, KYUSHU INSTITUTE OF TECHNOLOGY, JAPAN *Nov. 2019*

- Used **Brain-Computer Interface (BCI)** equipment to acquire EEG (Electroencephalography) signal of the human brain.
- Processed the signals using MATLAB and extracted it for various **motor movements** like arms, legs, and other large body parts.
- Used **Eye-Tracker** to record the user's eye movement and identified the interest area on the User Interface (UI) screen.

Technical Skills

- **Languages:** C++, Python, C, Bash
- **Operating System:** Windows, Kali Linux, Ubuntu, CentOS
- **Python Libraries:** NumPy, SciPy, PyTorch, TensorFlow, Keras, OpenCV, Beautiful Soup, Matplotlib
- **Full Stack Development:** Django, MySQL, Apache, Amazon Web Services (AWS), ReactJS, HTML, CSS, Bootstrap, JavaScript
- **Utilities:** MATLAB, Git, LaTeX, nano, QGIS, Ethical Hacking Tools, AutoCAD, Advanced Excel with Visual Basic for Applications (VBA)

Relevant Courses

- **Computer Science:** Cyber Security, Python Programming*, Data Structures*, Amazon Web Services*, Machine Learning*, Deep Learning*.
- **Mathematics:** Probability & Statistics, Linear Algebra, Calculus, Ordinary Differential Equation.
- **Miscellaneous:** Geoinformatics, Introduction to Economics, Small-Scale System Development- Internet of Things.

Position of Responsibility

Unnat Bharat Abhiyan, IIT Kanpur *Prof. Sandeep Sangal*

STUDENT COORDINATOR *July. 2017 - present*

- Led the **team of 100+**, analyzed local communities, and addressed their development challenges through technical intervention.
- **Mentored 60+ Village Students** for Vocational course on Computer Fundamentals and Microsoft Office tools, with practical labs.
- Coordinated **Digital Literacy**, Citizen Science, Navodaya Teaching, Sports & Defence Coaching, to ensure smooth execution.

Co-curricular

- **Distinction** in Australian National Chemistry Quiz organized by Royal Australian Chemical Institute.
- Certificate of Honour for Participation in The National Integration Workshop at RK Mission Vidyapith.
- Secured **1st Position** in Inter School Science Exhibition held by Science for Society Jharkhand.
- Designed & Build Radio-Controlled (RC) Plane, under Aeromodelling Club, IIT Kanpur.
- Participated in Blackbox, Crypto, and Codefest in Takneek'16, annual inter hostel technical festival.