

Heeramani Prasad

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Work Experience

Barclays, Pune

Intern Analyst

May '19 - Jul '19

- Developed an e-commerce website featuring user profile, shopping cart, quick view, and a checkout page from scratch. Used React.js, Bootstrap(Front-end), Express.js(backend) and NeDB (Embedded persistent NoSQL database).
- Redeveloped the same website using Next.js featuring server-side rendering for performance, delivering site to non-JavaScript-enabled devices, and allowing rich meta tags. Refactored the CSS from Bootstrap to styled-components.
- Introduced Guess.js with Next.js for predictive HTTP/2 server push of JavaScript bundles. It uses user navigation patterns to determine which pages are most likely to be visited next, thus enabling machine learning-driven user-experiences on the web.
- Converted existing web app into a Progressive Web App with Google Workbox for Precaching and offline support.

Global Belly, New York

Technology Platform Optimization

May '18 - Jun '18

- Improve user experience and incorporated the best SEO techniques in existing [Shopify](#) website, thereby increasing daily traffic, brand positioning and reduction in loading time of the website from 8 seconds to under 3 seconds.
- Worked with Google Webmasters and Google Analytics tool and carried out competitor keyword research to improve site ranking to number #1 on Google Web Search for target keywords.

Education

Indian Institute of Technology,
Kharagpur
Wazirganj College, Gaya [BSEB]

Bachelor's & Master's of Technology
in Computer Science & Engineering
Higher Secondary School Education, 2015

Apr '15 - Jun '20
CGPA: 7.01/10
75.20% (95.98 %ile)

Projects

Online Restaurant Aggregator and Food Order System

Jan '18 - Apr '18

Term Project under Prof. Soumya Kanti Ghosh

Database Management Systems, CSE Dept., IIT Kharagpur

- Developed Web-based application for online browsing and search of menu aggregated from multiple restaurants.
- Customers can order food delivery online. Orders are to be forwarded to respective restaurants, who will deliver the food and bill the customers. Developed backend modules using Python on Django Web Framework.

Peer-to-Peer Chat Application & QUIC Protocol

Aug '18 - Nov '18

Term Project under Prof. Sandip Chakraborty

Computer Networks, CSE Dept., IIT Kharagpur

- Developed a P2P chat application using TCP Socket Programming in C++, where users can chat with each other.
- Implemented a multiplexed connection protocol over UDP with TCP Tahoe-like congestion and flow control.

Automated Segmentation of Question-Solution Documents from NPTEL-NOC

Jan '18 - Apr '19

B.Tech Thesis Project under Prof. Partha P. Das

CSE Dept., IIT Kharagpur

- Built a GUI for automatic segmentation of question-solution document using OpenCV and Tesseract OCR.
- Used linespace segmentation to extract rows of text from an image. Passed the extracted rows to OCR to find approximate text from it which helps in segmentation of question and solution.
- Further improved accuracy up to 100 % using the predefined special symbol in question paper. Thus, the Problem reduced to the only detection of the special symbol

Detection of Motion frame and keyframe in Bharatanatyam video.

Jan '20 - May '20

M.Tech Thesis Project under Prof. Partha P. Das

CSE Dept., IIT Kharagpur

- Developed an annotation tool for automatic detection of Motion frame and keyframe in Bharatanatyam video.
- The optical flow is used to extract the feature from video, and Histogram of optical flow(HOOF) is used as the final feature vector to input a binary classifier(SVM).

Optical Word Recognizer For People With Low Vision

Jan '20 - May '20

Term Project under Prof. Manjira Sinha

Technology for special needs education IIT Kharagpur

- Developed an android web application for people with low vision, which optically recognises a word and convert word to speech.
- This application featuring upload a Hindi screenshot image having some text, process it and then a bounding box around each word which could be zoomed in and out according to need. Text can be converted from text to speech if the user wants it.
- Used Tesseract OCR for word recognition and bounding box and integrated text2speech API in a single application.

Linux command shell & Memory Resident File System

Jan '18 - Apr '18

Term Project under Prof. Indranil Sen Gupta

Operating Systems, CSE Dept., IIT Kharagpur

- Implemented common task scheduling algorithms like FCFS, SJF, Round Robin Scheduling and HRRN.
- Implemented a memory resident FAT32-like file system in C++ and wrote APIs to support read & write, create, modify & delete.

Text Prediction

Term Project under Prof. Pabitra Mitra

Aug '18 - Nov '18

Machine Learning, CSE Dept., IIT Kharagpur

- Used a GRU network to accomplish the above tasks. (The notable feature of this project is the self-implementation of forward and backward passes of a GRU net solely in numpy without using any previously defined APIs).
- Predicted nth word in a sentence based on previous n-1 words, and predicting second half of the sentence based on first half.

Hobby & self projects

- Created the website spplab.iitkgp.ac.in for a Material Science Department Lab of IIT Kharagpur.
- Created a personal portfolio website prasadheeramani.com for self.

Coursework

Deep Learning ⁺	Machine Learning	Image Processing ⁺	Artificial Intelligence
Educational Data Analytics ⁺	Database Management Systems ⁺	Computer Networks ⁺	Software Engineering ⁺
Object Oriented Systems	Data Structure & Algorithms	Operating Systems ⁺	[⁺ Practicum included]

Technical skills

- Languages: C++, Python, Java, HTML, MySQL, React.js, Next.js, Guess.js, Node.js, fastify, JavaScript ES6, 3Dmol.js, CSS, LaTeX, JSON
- Tools: Apache MXNet, Google workbox, Babel, webpack, OpenCV, AWS, Android Studio, Postman, VS Code

Positions of responsibility

- Navprayas is NGO run by the students working on the upliftment of society by encouraging students through various activities.
- Event coordinator (May'16 - Jul'16): Worked on women empowerment and career counselling for students. Organized Chess, Sketching competition, Puzzle Race(with 1000+ participation) where winners got a prize by the District Magistrate.
- Core Web Team Member, Rankethon (Aug'16 - Oct'17): Successfully conducted Rankethons Web Development workshop in Kolkata.
- More than 250 students participated in this workshop and it helped company to generate revenue of more than Rs. 1,50,000.
- **Teaching Assistant(TA):** for Programming and Data structure theory in Autumn semester 2019 and Lan in Spring semester 2020.

Extra-curricular

- Participated in open-software, inter-hall event, and implemented open-source map in photo sharing app for photo tagging using Leaflet JavaScript library.