Pratik Bhangale

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📍 Location 🔗 GitHub 🔗 LinkedIn

Education ─────

B.tech in Computer Science
Minor in Microelectronics
IIT Kanpur | 2018 | GPA : 7.6/10

Class XII in Maharashtra Board
Tanwani Jr College | 2014 | 87.54 %

Class X in Maharashtra Board
Tanwani Eng. Sch. | 2012 | 98.00 %

Skills ─────

Programming:
• C/C++ • Python • Java • Matlab
• Verilog • Shell Script • SQL
Libraries and Tools:
• Tensorflow • Keras • PyTorch
• OpenCV • NLTK • Django • GIT
• Perforce • Makefile • LATEX • GDB
• Altium PCB designer
Operating Systems:
• Linux(Arch) • Windows • macOS

Coursework ─────

• Reinforcement Learning (MOOC)
• Natural Language Processing (A)
• Introduction to Machine learning (A)
• Computer Architecture (A)
• Computer Systems and Security (A)
• Computer Networks
• Compiler Techniques
• Operating Systems
• Database Management Systems
• Data Structures & Algorithms
• Probability & Statistics
• Digital Electronics
• Introduction to Microelectronics

Responsibilities ─

• Coordinator, Electronics Club IITK
        Mar '16 - Feb '17
• Sub-head, Team Robocon IITK
        Jul '15 - Mar '16

Interests ─────

• Machine Learning and AI
• Computer Systems
• Microelectronics

PROFESSIONAL EXPERIENCE

MEMBER OF TECHNICAL STAFF VMware Softwares Pvt. Ltd, Pune   Jul '19 - Present
• Part of Scaling and Protection team of vRealize Network Insight product.
• Working on churn tracking of VMs and protection around the top churning VMs and performance benchmarking across various metrics of the product to provide better visibility in anomaly detection.

SOFTWARE ENGINEER Samsung Research Institute, Noida   Jun '18 - Jun '19
• Part of Android kernel development & bring up team for Qualcomm & Exynos Chipsets.
• Optimize and port boot loader and device kernel for latest Samsung mobile devices
• Designed & Implemented an automated bringup process to speed up project delivery
• Samsung Software Competency(SWC) certified Professional coder

SOFTWARE INTERN Samsung Research Institute, Noida   May '17 - Jul '17
• Developed two factor authentication system for Fingerprint called BioHashing
• Detected core-points in a Fingerprint using Gradient Orientation Map & hashed it to multi-dimensional vector to generate a BioHash for preventing misuse of biometrics

ACHIEVEMENTS

• Recipient of Kishor Vaigyanik Protsahan Yojana (KVPY) scholarship by IISc, Banglore
• Appeared in Indian National Chemistry Olympiad (INChO) among top 300 students
• Recipient of National Talent Search Examination (NTSE) scholarship by NCERT
• Second Runners Up in ABU Robocon India 2016 representing IIT Kanpur
• First place in Electromania, Techkriti (Annual Technical Festival of IIT Kanpur)

RESEARCH AND PROJECTS

deCAPTCHA Prof. Purushottam Kar, IITK | 🔗 code   Jul '17 - Nov '17
• The objective was to build efficient algorithms to break squirrel mail captchas
• Used K-means clustering and Image Processing tools to overcome heavy noises and clutters cutting through captcha text that makes it difficult for CNN models to work
• Implemented CNN models in PyTorch for character recognition which proved to be 98% accurate for character recognition and 85% for entire captcha

MACHINE COMPREHENSION Prof. Harish Karnick, IITK | 🔗 code   Dec '17 - Apr '18
• Objective was to help machine understand the comprehension and answer questions
• Word and character embeddings of comprehensions and questions were passed into Bi-Directional LSTM layers to extract information vector from tokens of the text
• Question Attention Layer was generated to find out important information of question, which later is multiplied with comprehension to get probable positions of answer
• Model proved to be 97% effective on bAbI dataset by Facebook

COMPUTER ARCHITECTURE Prof. Mainak Chaudhuri, IITK | 🔗 code Dec '16 - Apr '17
• Designed and simulated state-of-the-art cache replacement policies like Least Recently Used(LRU), Static Re-reference Interval Prediction(SRRIP) and Signature based Hit Predictor (SHiP) using Pintool by Intel on 16 set-associative L3 Cache
• Implemeted Pipelined MIPS processor with Register Forwarding to avoid data hazards on KSIM simulator

C TO x86 COMPILER Prof. Amey Karkare, IITK | 🔗 code   Dec '16 - Apr '17
• Developed a full fledged Compiler for a subset of C for x86 architecture in python
• Implemented Lexical Analyzer, Parser, Three address code & Assembly code generator
• The compiler supported basic arithmetic, conditionals, mutual recursion, parameterized functions, global declarations and scope handling

ABU Robocon '16 Prof. Bhaskar Dasgupta | IITK   Sept '15 - Mar '16
• Designed & fabricated one autonomous and one semi-autonomous robots which could complete tasks like pole climbing, object placing, line and wall following to participate in ABU Robocon 2016 competition

MINI PROJECTS

• Flappy Bird AI using Q-Learning and Reinforcement Learning using Keras
• Hotel automation system using Django and SQlite
• OS process sceduling, system calls, page allocation implementation for NachOS