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VINAY BHAT

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EDUCATION

Surathkal, Karnataka	National Institute of Technology Karnataka	August 2014 – May 2018 (Expected)
<ul style="list-style-type: none">• B. Tech, Information Technology• Undergraduate Coursework (as of 4th semester): Data Structures and Algorithms, Operating Systems, Computer Networking, Graph Theory, UNIX Programming, etc.		

WORK EXPERIENCE

Bangalore, Karnataka	Siemens, R&D	May 2016 – July 2016
<ul style="list-style-type: none">• Research Intern. Created an artificially intelligent reasoning system, which converted natural language to first-order logic, and then did inferences on any query generated based on the created Knowledge Base. Worked on design engineering too. Technology stack: Prolog, Python, Common Lisp, NLTK, Gendl		

Mumbai, Maharashtra	Indian Institute of Technology, Bombay	December 2015
<ul style="list-style-type: none">• Engineering & Research Intern. Worked on IIT Bombay's fork of Scilab, an internationally used open source equivalent to Matlab. Wrote code for the Image processing toolbox, designing and implementing algorithms for morphological image analysis and processing. Technology stack: C++, OpenCV, Scilab		

Bangalore, Karnataka	Make A Difference	May 2015 – July 2015
<ul style="list-style-type: none">• Software Engineering Intern. Worked on India's first online and offline (internal) fundraising platform, streamlining transactions from all across 23 cities of MAD (an NGO)'s operation. Sole developer of the server responding to SMS requests. Technology stack: Ruby, Ruby on Rails, MySQL, AngularJS, jQuery		

TECHNICAL EXPERIENCE

Projects

- **Concurrent AI Erlang.** Designed and implemented a concurrent artificially intelligent reasoning system in Erlang, alongside a parser for state machines. **Erlang, OTP**
- **xv6p OS.** xv6p implements the whole suite of features possible using x86 paging hardware to MIT's xv6 Operating System, including demand paging from disk, lazy page allocation, memory mapping of files into private memory and copy-on-write fork. **C, QEMU**
- **Distributed Access Shell.** Dash, a new innovative shell, allows inter-host, inter-process communication by combining the two fundamental UNIX abstractions: sockets and pipes, allowing unprecedented, distributed command execution and redirection. Uses C TCP sockets and various other Unix IPC features. **C, Makefile**
- **FFT Parallelization.** Designed and implemented an effective way to parallelize the Cooley-Tukey FFT algorithm in OpenCL, leveraging GPU computation. **C, OpenCL, Pthreads**
- **TaskBox Sync.** A personal-assistant like task manager, logger and web crawler. Generates periodic automatic reports. Syncs with Google Keep. **Haskell, Ruby, bash.**
- **AI Scheduler.** Web application which takes n tasks with their deadlines and amount of time required and auto schedules them, distributing them evenly using AI algorithms across all dates, with drag and drop support. A better version of Google Calendar. **Ruby on Rails, JavaScript, MySQL**
- **Competitive Exams Question Generator.** Web application which generates a random question within the bounds set by user. User can filter based on Exam, Subject, Subtopics, Difficulty, etc. **Ruby/RoR, JS, MySQL**
- **Cricket Game Engine.** A cricket game engine which simulates a game of cricket and provides a rich API for probabilistic analysis using user data on players' statistics. **Ruby.**

ACHIEVEMENTS

- **Headed an online course for teaching Erlang, Functional Programming and Concurrent Programming**
- **Executive Member, IEEE, NITK chapter**
- **HackerRank Campus Ambassador (Junior)**
- **Co-founded a start-up:** Started-up a service with two others, which generates random questions for IITJEE (mains) prep help. Based on the Competitive Exams Question Generator project.
- **Scored in 99.6th percentile:** Scored in the 99.6th percentile in the entrance test for NITs (premier Indian engineering universities), written by 1.36 million Indians.

Languages and Technologies

- C, C++, Haskell, Ruby, Prolog, Common Lisp, Erlang, Java, SQL, Shell Scripting, Python, JavaScript, HTML, CSS
- Ruby on Rails, NLTK, GendI, OpenCV, Sinatra, jQuery, CoffeeScript, Yesod, Git, Scilab, Photoshop, Illustrator