Rohit Naik Jarupla

Junior Undergrad, Computer Science,
Indian Institute of Technology Delhi

Ph: +91 9810422284
cs1140224@cse.iitd.ernet.in
http://www.cse.iitd.ernet.in/∼cs1140224/

Education

Indian Institute of Technology, Delhi — New Delhi, India
Bachelor of Technology — *2014 - 2018*
Relevant Courses: Artificial Intelligence, Machine Learning, Operating Systems, Analysis & Design of Algorithms, Database Management Systems, Computer Networks, Parallel Programming

Hyderabad Public School, Begumpet — Hyderabad, India
ICSE Boards — *2002 - 2012*
CGPA: 9.47

Work Experience

- **Software Engineering Intern** — InStep Infosys, Bangalore
  REST Framework for Named Entity Extraction — *Summer 2017*
    – Built a scalable RESTful API Service from scratch to perform NER (Named Entity Extraction, part of NLP) on a given text fragment or a document and return metrics such as Recall and Precision.
    – Technology Used: Spacy to perform NER, Flask to setup server, Swagger and Flaskrest-plus to create API documentation.

- **Web Developer Intern** — NextGen, Bangalore
  Dashboard Development in JavaScript — *Summer 2016*
    – Designed, developed and delivered customized web based dashboards which enabled client companies to monitor their CSR projects. Technology used: HTML5/CSS3, JavaScript, jQuery, AJAX, JinqJs, Lodash, C3.js.

Projects

- **Operating System - xv6** — IIT Delhi
  course project under Prof. Sourav Bansal — *Jan 2017 - Present*
    – Built a basic Operating System from scratch. Implemented basic I/O, co-routines, threads & non-preemptive & preemptive scheduling. Written in C and assembly language, x86.

- **Game Player for TAK** — IIT Delhi
  course project under Prof. Mausam — *July 2016 - Sep 2016*
    – Designed a bot for the Real Time Strategy Game, TAK, using Adversarial Search.
    – Implemented Depth-Limited MiniMax Tree Search, Alpha-Beta Pruning and Transposition Table. Used Genetic Algorithm to drastically improve the evaluation function.

- **Elevator Simulation Model** — IIT Delhi
  course project under Prof. Mausam — *Aug 2016 - Nov 2016*
    – Designed an Elevator Simulator to optimize electricity and total waiting time.

- – Modeled the problem as Markov Decision Process and implemented UCT and function approximation, along with memory optimization due to a huge state space.

- **Multiplayer Ping-Pong** IIT Delhi
  course project under Prof. Vinay Ribeiro *March 2016 - May 2016*
  - – Wrote server and client programs for a multilayer ping pong game played over the network using Swing Java Library for GUI and Socket Class for networking (UDP Protocol).
  - – Supports up-to 4 players simultaneously and disconnected/crashed player are replaced by bots to ensure continuity of the game.

- **ARM Processor in VHDL** IIT Delhi
  course project under Prof. Anshul Kumar *Feb 2016 - May 2016*
  - – Implemented an ARM Processor with RAM, Register File and an ALU, involving Pipe-lined data-path and control-path with data-forwarding and a co-processor for branch prediction

- **Custom Compiler in SML** IIT Delhi
  course project under Prof. S. Arun Kumar *Feb 2016 - March 2016*
  - – Developed compiler in the functional language, SML, given LL(1) form of grammar. Implemented a tokenizer and recursive descent parser to generate parse tree, which was converted into AST and intermediate representation code generation. Implemented a stack machine to run low level executable code generated by code generator.

Independent Projects

- **Web Scraper in Python**
  Python Programming *July 2016 - Aug 2016*
  - – Built a Web Scraping Script in Python using the Modules Beautiful Soup and Selenium that scans a given course page and automatically downloads the Lecture Notes and Tutorials and saves them locally in appropriate format.

- **Handwritten Digits Recognition Software**
  Machine Learning *October 2016*
  - – Designed a Neural-Network to decipher images of handwritten digits in MATLAB. Implemented the Back-propagation Algorithm to minimize the Cost Function.

Awards, Grants & Honours

KVPY National Scholarship 2012
Secured All India Rank 5*

National Science Olympiad 2012 July 2012
Secured Rank 69

Silver Medal for Academic Excellence March 2012

Designing and Coding Skills

Extensive	Java, JavaScript, Python, C++, PostgreSQL
Intermediate	ARM/X86 Assembly, SML, VHDL, Matlab, HTML/CSS
Basic	Shell Script, PHP