

Niraj GOEL

PERSONAL DATA

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EXPECTED GRADUATION AND DEGREE

SPRING 2019 MS Computer Science.

AREAS OF INTEREST/ COURSEWORKS

AREAS OF INTEREST Machine learning and cloud computing.

COURSEWORK taken Natural language processing, linear algebra,
Cloud computing & Big data laboratory (special topic), open stack seminar (2 days).

COURSEWORK planned Machine learning, Information Storage and Retrieval,
Distributed processing systems, Analysis of Algorithms.

EDUCATION

JULY 2015 B.E. in Computer Science and Engineering
PES Institute of Technology, Bangalore
GPA: 8.7/10

APRIL 2010 All India Secondary School Certificate Examination (High School)
D.A.V Co Op Sr Sec School
87.66%

ACADEMIC PROJECTS (UNDERGRAD)

BLOX	Prototyped a low power IOT device which can host basic apps like clock, weather, stocks etc. The device is voice controlled and the functionality can be extended to act as smart-home controlling interface. Developed a Software Framework for App Development for BLOX. Technologies used :Python, Google speech engine, ARM mbed Platform. Hardware components involved : micro-controller , E-ink display, wifi and other necessary modules.
INSTAFEED	A cross platform location based custom feedback application. Technologies used : Angular JS, Ionic, Cordova and Parse.
CAMS	A Web based College Activity management System, to manage all the clubs within the campus and enable their interaction with students. Technologies used : HTML, CSS(Bootstrap) , JavaScript, PHP.

RESEARCH PROJECTS

AUTOSCALING OF Hadoop	Mechanism to dynamically add and remove resources (nodes) from a Hadoop cluster on the basis of load/resource usage. Openstack was used to manage the cloud infrastructure. Ganglia was used as a dynamic load analysis tool.
LOOKASIDE SORT	Devised a new sorting algorithm which essentially is an optimised version of merge sort. The algorithm uses heuristic to partition the elements instead of blindly partitioning them. The average time complexity was found to be better than $O(n \log n)$.

WORK EXPERIENCE

JULY 2015 - Current	<p>Graduate Engineer at ARM TECHNOLOGIES, Bangalore <i>Architecture and Technology group</i> <i>Projects:</i></p> <p><u>Validation Abstraction Layer</u> VAL library provides functionalities like configurable boot code, exception handling and trick box API's to the applications in Architecture Validation Suite. Development of the library involved implementation of CPU boot code (ARM v8.x Architecture), implementation of exception handlers and design/implementation of trick box specification/APIs. The library was implemented in C and partly in ARM Assembly language.</p> <p><u>Architecture Checkers</u> Developed a generic Infrastructure by exploiting the fast model trace APIs. The Infrastructure allows implementation of Checkers and Profilers on top of it. Implemented various Checkers and Profilers by imitating interesting ARM architecture scenarios. The Checkers developed includes TLB invalidation checker, Memory map checker, Trick box Profiler etc. The infrastructure and the checkers were implemented using C++ and OOPs design pattern.</p> <p><u>Mentorship</u> Mentored two Interns at ARM. Projects carried out by them : 1. SVN to GIT Migration for AVS. 2. Improved User Memory Configuration Interface.</p>
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INTERNSHIPS

JUNE 2014 - July 2014 and Jan 2015 - Apr 2015	<p>ARM TECHNOLOGIES, Bangalore <i>Architecture and Technology group</i> Work done: Developed Architecture checkers by using model trace apis. Technologies used: Software development, OOPs, C++.</p>
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AWARDS

- First Class Distinction award in all semesters of Undergraduate program.
- Bravo award at ARM for significant contribution to Methodology team.
- Excellence in Academics award in High school: School Topper/Subject Topper.

EXTRACURRICULAR ACTIVITIES

- Secretary at ARM Talkies toastmasters club (for 6 months).
- Public Relations head at Entrepreneurship cell, PES Institute of technology (for 3 months).
- Member of TeamARM, the CSR club of ARM Technologies.
- Participated in “Siksha”, An I-care initiative to provide education to underprivileged kids (3-month program)..
- Member of Pixels photography club.
- Participated in TCS 10k Marathon.