Ajay Brahmakshatriya

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Education

September'18-Present	**Massachusetts Institute of Technology**	
August'12-June'16	**B.Tech in Computer Science(Honors), Indian Institute of Technology Hyderabad**	9.74/10
	Runner up to the President's Gold medal including all departments of BTech 2016	
July'11-June'12	**J.H. Ambani School, Central Board for Secondary Education**	94.0%
July'09-June'10	**J.H. Ambani School, Central Board for Secondary Education**	95.8%

Interests

Programming languages, Compiler and Systems research

Publications

GLOBECOM'16	**LWIR: LTE-WLAN Integration at RLC Layer with Virtual WLAN Scheduler for Efficient Aggregation**

Work Experience

July'16-July'18	**Research Fellow, Microsoft Research India, Bangalore**
May'15-July'15	**Intern, Software Development Engineer, Amazon India, Bangalore**

Major Projects

July'16-July'18	**An Instrumenting Compiler for Enforcing Confidentiality in Low-Level Code**
Advisor	**Dr. Akash Lal, Senior Researcher, MSR India**
	Memory partitioning and instrumentation techniques for preventing leak of confidential data in low level languages in presence of active attackers.
August'15-January'16	**LWIR: LTE-WLAN Integration at RLC Layer with Virtual WLAN Scheduler for Efficient Aggregation**
Advisor	**Dr. Bheemarjuna Reddy Tamma, Professor, CSE department, IIT Hyderabad**
	Tunneling LTE RLC frames over WiFi channel for increased throughput with a scheduling algorithm that reduced waiting time and out of order delivery
January'16-August'16	**Efficient code generation for stencil computations on spherical domains**
Advisor	**Dr. Ramakrishna Upadrasta, Professor, CSE department, IIT Hyderabad**
	Efficient strategies for smashing a thin spherical domain with large number of points to minimize memory utilization and execution time. Execution tiled appropriately in space and time to minimize cache misses.
August'14-January'15	**X86 compiler for the language COOL (a subset of Java)**
Advisor	**Dr. Ramakrishna Upadrasta, Professor, CSE department, IIT Hyderabad**

August'14-January'15	**Enhancements to Minx OS**
Advisor	**Dr. Bheemarjuna Reddy Tamma, Professor, CSE department, IIT Hyderabad**
	Modifications to Minix operating system to implement 2 new schedulers

Skill Set

Programming	X86/64 Assembly, C, C++
Tools	LLVM

Some of my projects are hosted at `https://github.com/AjayBrahmakshatriya`

Academic Achievements and Experiences

- Runner up to the President's Gold medal including all departments of BTech 2016.
- Awarded the academic excellence award for 2014, 2016 during BTech.
- Secured 1863 Rank in IIT-JEE, 2012 out of 500,000 students who appeared for the test

Extra-Curriculars

- Winner of Microsoft CTF competitions - Hackon(Winner) and Build the shield(Runner up)
- Creatives core for Elan 2015 and Web Coordinator for Elan 2014, the Cultural and Technical festival of IIT Hyderabad.
- Core member of KLUDGE and INFERO, the hacking and programming clubs of IIT Hyderabad for the year 2013-2014.

Hobby Projects

- emu-NES - An X64 JIT emulator for Nintendo Entertainment System (MOS6502 processor) with efficient PPU rendering.
  https://github.com/AjayBrahmakshatriya/emu-NES