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EDUCATION

CARNEGIE MELLON UNIVERSITY
Information Networking Institute
MS in Information Networking
Expected Graduation May 2020
Pittsburgh, PA

PUNE UNIVERSITY
Pune Institute of Computer Technology
BE in Information Technology
Graduated May 2015
Pune, IN

LINKS

Github - **ashmew2**
CodeForces - **ashmew2**
Ubuntu Forums - **ashmew2**
KolibriOS Forums - **ashmew2**
CodeChef - **ashmew2**

COURSEWORK

GRADUATE
Operating Systems
Computer Architecture
Computer Networks
Storage Systems
Computer Systems
Embedded Systems
Computer Graphics

SKILLS

PROGRAMMING
C • C++ • Python • Bash • x86 Assembly
Click Modular Router • GNU Make

VERSION CONTROL
Git • SVN • Perforce

INTERESTS
GNU / Linux • FreeBSD • FOSS

OPEN SOURCE

GOOGLE SUMMER OF CODE
Student in 2013 for Pidgin
Student in 2014 for KolibriOS
Mentor in 2016 for KolibriOS

EMPLOYMENT

NVIDIA | May 2019 - August 2019
Systems Software Developer Intern | Santa Clara, USA
- Designed & implemented the clocks infrastructure for next generation GPUs.

OPTIVER | Nov 2016 - May 2018
Application Engineer | Amsterdam, Netherlands
- Worked alongside trading teams to develop and manage trading systems.

RAKUTEN INC | Oct 2015 - Oct 2016
Developer | Tokyo, Japan
- Zero-downtime live SQL database migration in production using Redis.

COURSE PROJECTS

OPERATING SYSTEMS | Spring 2019
CMU 15-410: Design and Implementation of Operating Systems
- Implemented an x86 kernel from scratch with virtual memory support, various drivers, syscalls, scheduling and synchronization primitives.
- Added paravirtualization support to the kernel and ran it as a guest.
- C, x86 assembly, Simics

COMPUTER ARCHITECTURE | Fall 2018
CMU 15-740: Computer Architecture
- Research project to optimize caches for graphs (they are cache averse).
- Implemented a cache simulator using Dynamic Binary Instrumentation.
- C, C++, Intel Pin Tools, zSim

EMBEDDED SYSTEMS | Fall 2018
CMU 18-349: Embedded Systems
- Implemented a microkernel with RMS & HLP with drivers for UART, I2C & ADC.
- Wrote a Linux motor driver LKM for a custom raspberryPi board.
- C, ARM assembly

COMPUTER SYSTEMS | Fall 2018
CMU 15-213: Computer Systems
- Implemented malloc() and free() to manage heap memory.
- Implemented a shell with support for job control and signal handling.
- C, Linux, x86_64 assembly

OPEN SOURCE PROJECTS

WIRELESS MESH NETWORKS | Dec 2014 - Mar 2015
Improve Bandwidth utilization in Wireless Mesh Networks
- Implemented routing logic in userspace to utilize the available bandwidth in the wireless mesh network increasing throughput.
- ARP, DHCP, L2 and L3 networking, Click Modular Router, C++

KOLIBRI OS | May 2014 - August 2017
Official Netsurf port for KolibriOS
- C, x86 assembly, newlib, toolchains, TCP, HTTP

PIDGIN INSTANT MESSENGER | May 2013 – Sep 2013
File Transfer support for Google Talk in Pidgin
- C, XMPP, Networking, libnice, NAT traversal.