INDIAN INSTITUTE OF TECHNOLOGY KANPUR
भारतीय प्रौद्योगिकी संस्थान कानपुर

Microarchitecture

Multi-core
OpenMP

SSD
Superscalar
Row-Buffer
CPI
MPI
Bandwidth
Memory
Bus
ROB

Processor
TLB ISA
Interconnect
Latency
GPU

Performance
Virtual-Memory
Concurrency

Pipeline-Hazards
CUDA
Memory-Consistency
Out-of-Order

CPU
CASS'18@CSE-IITK
RISC-V
Cache

Security
Page
Value-Prediction
Page-Table-Walkers

Parallelism
Cache-Coherency
Branch-Prediction

DRAM
Flash-Memory
Pipeline
Locality
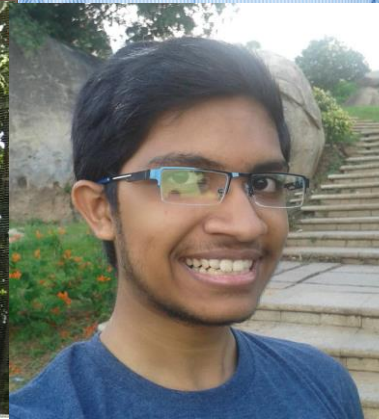
MMU
Thread

RAM

intel

AMD

THE TEAM: SPEAKERS AND TUTORS

THE PROCESS

- ~140 Applicants: 55 Shortlisted

- Applicants from all corners of the country

- Biswa Shortlisted them based on their skills/interests, SOP, and in some cases recommendations.

- Thank me if you are here and curse me if you are not here ☺

Why CASS?

- To improve the ecosystem in terms of computer systems research in India.

- First of its kind in India: Lectures + Hands-on + Discussions spanning over 5 days.

- Academia + Industry (Thanks to Intel and AMD)

Computing Stack

Problems

Algorithms

Programming Languages/Compilers

Operating Systems

Microarchitecture

Abstractions

It is good if you don't care about the performance of underlying entities.

What?

ABSTRACTION BARRIER

How? Why?

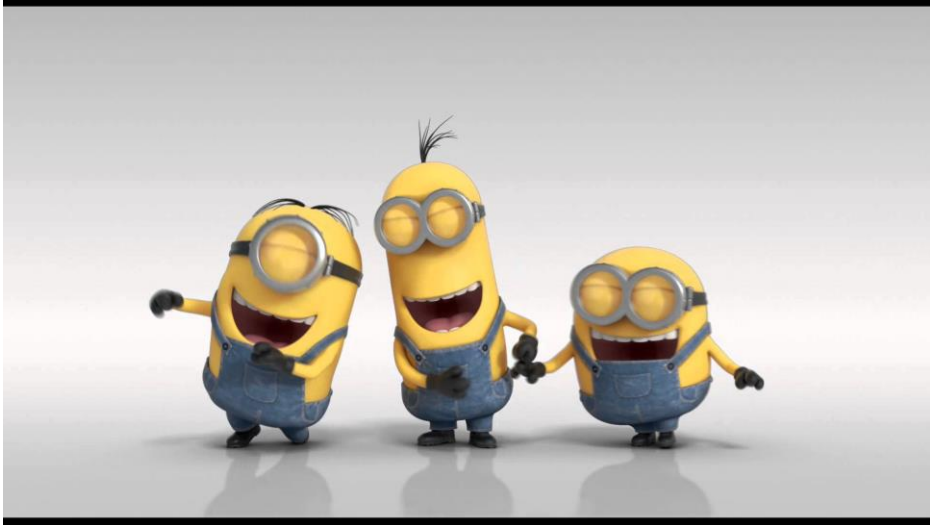How many of you can drive a bike?
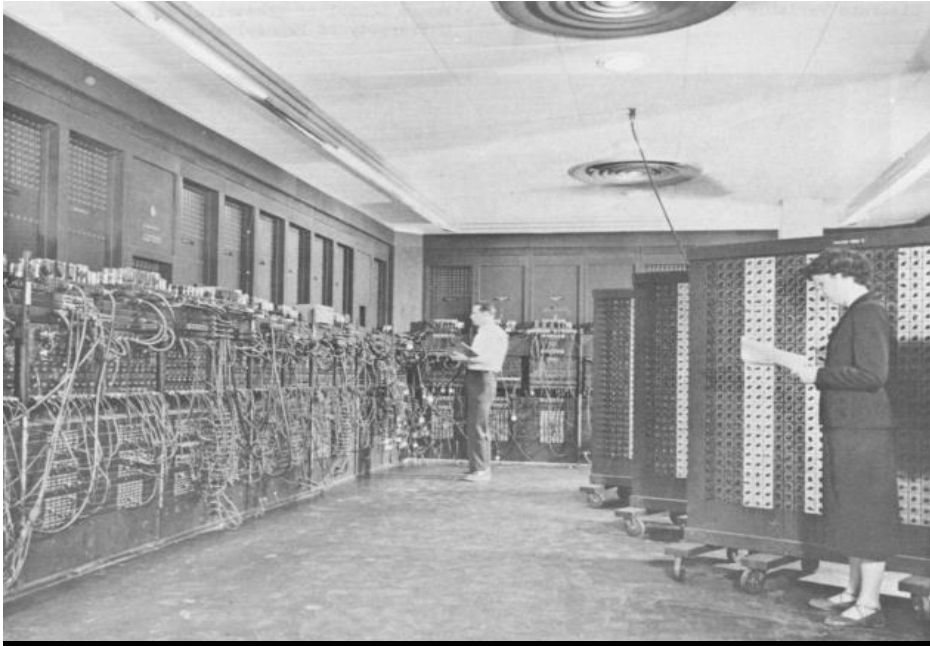
How many of you know how a bike works?

"*I don't think there will ever be a market for more than* **five** *computers in this world*"

"**640 KB** *of memory ought to be enough for anybody*"

ARE YOU KIDDING ME?!?!

WHAT?!?

Reality

Welcome to CASS '18: The one-stop-place for Why and How of Computer Architecture.