# ORIENTATION

**2016-2017**

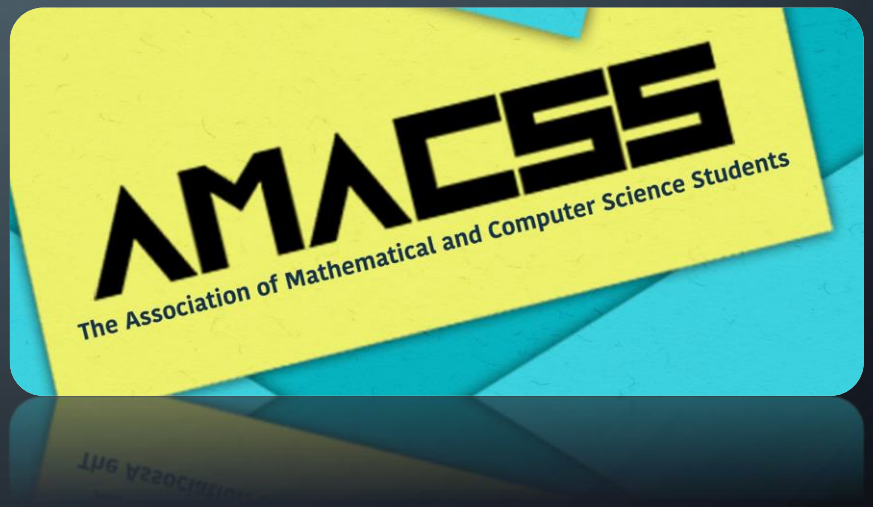
COMPUTER SCIENCE ENRICHMENT CLUB

# THIS CLUB IS FOR ENRICHMENT

# **NOT** ACADEMIC HELP

# WHAT IS AMACSS?

- The Association for Mathematical and Computer Science Students
  - Departmental Student Association (DSA)
  - amacss.org
- Office Hours (academic help)
- Review Seminars (Math, CS, Stats)
- Gaming Nights
- Networking Nights



# ADMINISTRATIVE STUFF

- Sign up for CSEC to keep up with news and updates
  - csec@utsc.utoronto.ca
  - facebook.com/CSEC.UTSC/
- Let your friends know
- Every Friday from 4PM-6PM, IC-402
  - Exam season is your time off!

# NOW,

# CSEC

# THE COMPUTER SCIENCE ENRICHMENT CLUB

- Student-ran Computer Science Hobby and Enrichment Organization
- Focuses on Algorithms and Problem Solving
- Exploring different CS fields
- Professional portfolio, resumes, guest speakers
- Competitions, hackathons, and more

# ALGORITHMS AND PROBLEM SOLVING

*“ You are given a continuous stream of integers. Write a function to find the median at of the set at any given time ”*

# ALGORITHMS AND PROBLEM SOLVING

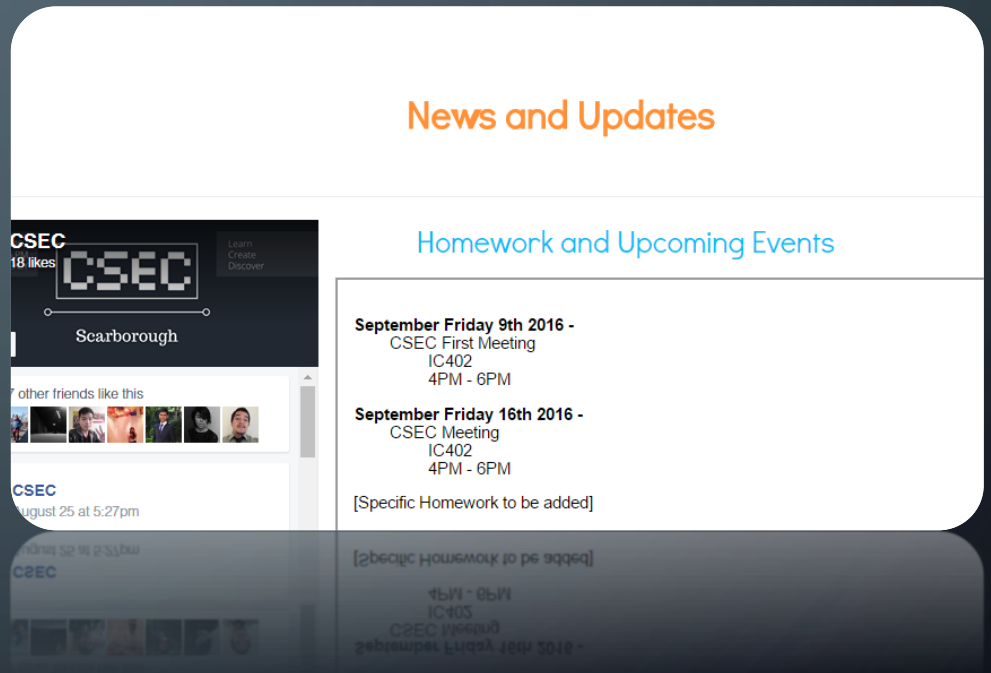
- How would we approach this?
  - Insert the elements into an array
  - Sort array
  - Take middle elements
- Better ways of solving this
  - Two heaps (min heap, max heap)
  - Optimization

# ALGORITHMS AND PROBLEM SOLVING

- Introduction and Syntax to C++
- Data Structures
- Problem Solving Paradigms
- Greedy Algorithms
- Dynamic Programming
- Graph Theory
- Mathematics, Network Flow, and Strings

# ALGORITHMS AND PROBLEM SOLVING

- Lots of topical problems!
  - 2-3 Hours per week
  - We won't chase you for them
  - Team Selection
- Sign up on OpenKattis
- Check the News tab of our website



# ALGORITHMS AND PROBLEM SOLVING

# ANY QUESTIONS?

# CS BREADTH AND SEMINARS

- Held every last Friday of the month (Sept 30th)
- Lead by people with in-field experience
- Demo code will be made available
  - Github.com/csecutsc
- Topics will be determined by popular vote
  - Web Development
  - Game Development

# CS BREADTH AND SEMINARS

- Web Development
  - What is web development? What is web design?
  - A little bit of history…
  - Front-end/Back-end/Full-stack
  - WAMP/LAMP/MEAN Stacks
    - SQL and Databases
  - Some Projects
  - Let's make a website!

# CS BREADTH AND SEMINARS

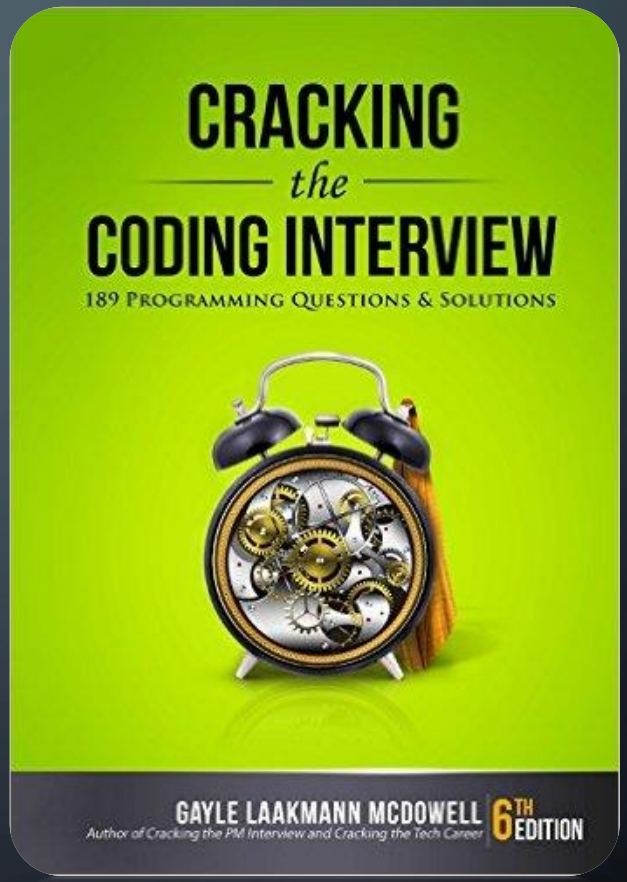
# ANY QUESTIONS?

# PROFESSIONAL DEVELOPMENT

- Professional Portfolio
  - Resumes Editing
  - Personal Projects
  - Marketing yourself
  - Entrepreneurship
- Internships
  - Technical Interviews
  - Where to apply
- How To Build a Network?

# PROFESSIONAL DEVELOPMENT

- Guest Speakers!
  - Entrepreneurs
    - The Hub, startups, etc.
  - Interns
    - Google, Yelp, Microsoft, etc.
- Resource Lists
  - Google Interview Prep / Books to Read
  - Lists of Tech Internships



# PROFESSIONAL DEVELOPMENT

# ANY QUESTIONS?

# COMPETITIONS AND EVENTS

- ACM-ICPC
  - Assocation of Computing Machines International Collegiate Programming Contest
  - Teams of 3
  - Extensive problem solving / algorithms / data structures knowledge
- Hackathons
  - Teams of 4
  - Hack The North, Mhacks, UofTHacks, PenAppHacks, etc.

# COMPETITIONS AND EVENTS

- ACM-ICPC
  - Competitive programming competition among the universities of the world
  - Hard algorithmic and logical questions
  - Goal is one team from UTSC this year

- TRAIN HARD

# COMPETITIONS AND EVENTS

- Hackathons
  - What are they?
  - What happens in one?
  - Which ones to attend
  - What should I make?
  - What are prizes/why should I care?

# COMPETITIONS AND EVENTS

# ANY QUESTIONS?

# RECAP

- Learn basic to advanced algorithmic problem solving
- Explore different fields of CS (Web, Android, Games)
- Build your portfolio and prepare for internships
- Compete and win at various competitions

# EXECS

**Brian Chen**
President

**William Granados**
Leader

**Prantar Bhowmik**
Systems Administrator

**Howard Fung**
Lecturer

**Albion Fung**
Lecturer

**Samiul Haque**
Lecturer

**Saba Kiaei**
Lecturer

**Could Be You**
Treasurer / Lecturer

**Dr. Thierry Sans**
Professor

**Dr. Brian Harrington**
Professor

# MIX AND MINGLE

- Split into groups
- Talk about yourselves
- Execs will introduce what they do
- Ask your questions
- Make some friends and connect

# WRAPPING UP

That's all folks

Thanks for coming out for the CSEC orientation

Hopefully you're excited for what CSEC is going to do this year

**Join us next Friday for the first official CSEC class**

**SEPT 16, 2016**