CMD Seminar

Computer Science, Mathematics, and Data Science Seminar for Breath Studies in the Computational Sciences.

Mission:

In both industry and academia, being inquisitive, and being informed of the latest and current standard technologies and techniques is key to success. While it is up to you to generate your own curiosity, being informed is dependent upon those responsible for your education. This seminar aims to provide information to keep you aware of many topics and technologies; some of which are not necessarily a part of a university curriculum. The goal is to briefly expose you to these things during each seminar in order to spark your own interest, especially to those newer to the field of computational sciences!

GOALS

1. Provide you with essential information that is not directly a part of your coursework (e.g. GitHub, standard IDEs, Industry vs. Academia, etc.)
2. Prepare and inform newer students of the opportunities available and potential fields of study/work.
3. Provide more support for all computer science, mathematics, and data science majors, especially those in their first and second year.

How Will This Work For You?

We have a website that will be updated weekly to follow the schedule (see page 3). Each week, there will be a pre-recorded lecture (no more than 30 minutes 😉) for you to watch, followed by a quiz which will ask questions based on the lecture. There will also be supplemental resources that won't have any quizzes, just for your enrichment. The quizzes will be graded, but only you will know your score (I will NOT share with professors). The quizzes will not be timed, but you must complete within 7 days of release to be considered for extra credit. The purpose of the quizzes is to give you motivation to dig deeper into the topics for your own learning. ***If you are interested in extra credit for your courses, it is in your best interest to treat the quizzes as graded assignments and to participate each week.***

Who Are We?

Justin Ventura (Founder)

I am a senior majoring in computer science and computational mathematics (minor in data science), planning to graduate in the Fall of 2022. My passion is teaching, and my employment with the university can vouch. I've tutored for nearly 3 years, have been a supplemental instructor for 2 years (COSC117 and MATH201), and a lab assistant for almost 2 years as well. I also have a YouTube channel where I post educational content relevant to what I enjoy teaching (math & computer science). I have a solid academic standing on track for Summa Cum Laude. I have participated in GullCode twice, and won both the individual and team competition in 2021. I conducted software engineering research at Carnegie Mellon University during the summer of 2021, and qualified (and participated) for HackMIT 2021, a 24 hr hackathon at Massachusetts Institute of Technology with two SU colleagues and a friend of mine from University of California, Berkeley. I received software engineering intern offers from multiple "big tech" companies, including Amazon which I will be working for during the summer of 2022.

Jacob Duncan (Co-Founder, Organizer)

Jacob is a senior computer science (minor in mathematics and data science) major on track to graduate Magna Cum Laude this spring. We have worked together on many projects, and his web development skills are unmatched at SU. He is a software engineering intern with CTI (Chesapeake Technology International), and will be in charge of the website will be using to host the seminar. He was on the winning team with me in GullCode, and also on my HackMIT 2021 team. He is currently working on web development research for the psychology department.

Blaine Mason (Co-Founder)

Blaine is a 4th year in computer science, computational mathematics, and computational data science planning to graduate with honors in Spring of 2023. He worked with award winning research mentor Dr. Anderson for over a year via an NSF grant ($175K) conducting research in machine learning. He, like myself, loves to teach and works as a tutor & lab assistant for the mathematics and computer science departments. He was also on my HackMIT 2021 team. Blaine plans to pursue a Doctor of Philosophy (PhD) in computer science (or a related field) upon graduation.

Tentative Seminar Schedule:

Jan 31: Announcements & Awareness

Feb 7: Computational Thinking & Number Systems

Feb 14: Linux Terminal, Vim, GitHub

Feb 21: Array & Linked Lists + Algorithms

Feb 28: How to Interpret Data (University of Pittsburgh Guest)

Mar 7: Limits & Asymptotic Analysis (Big O)

Mar 14: Trees, Stacks, Queues, Heaps

Mar 21 SPRING BREAK BONUS: Hashing & Information Security

Mar 28: Front-End Web Development Concepts

Apr 4: Back-End Web Development Concepts

Apr 11: Graphs, Hash Tables/Sets

Apr 18: Fair & Unbiased Data Visualization (UNC Chapel Hill Guest)

Apr 25: Machine Learning I: Regression (U Pitt Guest)

May 2: Machine Learning II: Clustering Algorithms

May 9: Industry vs. Academia

Questions?

Please reach out to myself, or Jake/Blaine. I am looking forward to working with you all, and am hoping this can provide additional support for students making their learning experience even just a little bit better!

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