

REU-CAAR: You're Here!

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Auguste: Why are you telling them all that?

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Auguste: Why are you telling them all that?

Bill: In academia its very important to credit past work!

Purpose of This Talk

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3. What is expected of you?
4. What should you expect of us?
5. Nuts and bolts of how the program works.
6. Advice on how to get the most out of this summer!

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Discuss Find a topic within CS that this title **does not** cover?

Systems, HCI, Software Engineering, anything else?

REU-CAAR: TEAM!

Projects and Mentors: Algorithms Projects

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Parallel Algorithms for Nearest Neighbor Search.

Mentored by Laxman and Tobias.

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Dave helped design projects but Auguste is the

one on the ground.

Projects and Mentors: AI Projects

What Makes Multimodal Question Answering Difficult

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Only project that is **Applying Theory to Practice**

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BILL: Whats that like?

I mean, what is wanting to help people like?

Projects and Mentors: Quantum Projects

Classical and Quantum Error Correction

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He must be error-prone to need that much correction.

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- 8) Next page for the exciting conclusion.

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Point: The set of Quantum Projects is a wave function.

Admin

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- ▶ **Lots of Stuff:** Sharron McElroy.

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- ▶ **Help with Final Presentations:** Clyde.

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They will meet in our room, IRB 2207. You are free to join us.

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4. Talk to each other in the dorms about your projects!

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1. **Role modeling:** Their experiences offer clues for your own professional success story.

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3. **Background:** Explain **why** the research is important! How it fits into other things!
4. **Connection:** Help connect you to their colleagues, graduate assistants, others.

What Faculty Mentors Expect from You

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First letters spell out **CAMERA**.

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Credit **Auguste** thought of making the first letters spell words.

**Issues that Probably
Won't Arise
But Need to be
Discussed**

Sexual Harassment and Discrimination

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Note that in the United State there is Mandatory Reporting: if a mentor or director hears about a case of sexual harassment, they must report it.

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Note that in the United State there is Mandatory Reporting: if a mentor or director hears about a case of sexual harassment, they must report it.

2. While this slide is about Sexual Harassment and Discrimination, feel free to talk to **Bill**, **Auguste**, or **Aviva** about **any** issue, even if it is uncomfortable.

My Least Favorite Topic

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Good News That You Know:

1. You get a stipend.

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You could be asked to leave, which will mean you get less of your stipend. This is RARE! (once in 2014 and once in 2016).

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What is 'your part':

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SPACE AGE and **CAMERA**

Complain **SOONER** Rather than **Later**

Better to get a problem resolved **EARLY**, whatever they are.

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its finding whose to **Blame :-)**

Most Common Complaints

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Upshot Communication!

Schedule and Activities

First Week++ Talks

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In symbols

$$(\forall p)(\exists m, d)[MENTOR(p, m) \wedge TALK(p, m, d)].$$

First Week - Lunch

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4. Bill will join you for lunch some of the first week.

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1. **Red** Tape stuff (hopefully ends Tues).

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3. Research-Every day.

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Parallel Algorithms for Nearest Neighbor Search

College Park Metro Station

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Check: There are websites that have metro information- check them before any excursion.

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(Is that a paradox? A project for Summer 2025 REU.)

Summary of Projects and People

Parallelism for Nearest Neighbor Search

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Elevator Pitch

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Mentors Laxman and Tobias

Students Arushi, Atharva, Dinesh, Pranav.

Exploring Hilbert Geometry

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Computational Geom asks comp questions about subsets of \mathbb{R}^n .

Exploring Hilbert Geometry

Elevator Pitch

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One topic is to look at

$$\{(p_1, \dots, p_n) : 0 \leq p_i \leq 1 \wedge \sum_{i=1}^n p_i = 1\}$$

which is called the probability simplex.

Exploring Hilbert Geometry

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which is called the probability simplex.

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Students Carmen, Hridhaan, Lucy, Megan, Nithin, Olga, Megan, Sarah

Crop Planning Decisions Support With Multi-Agent Reinforcement Learning

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Students Anubah, Daniel, Ethan, Shreya

What Makes Multimodal Question Answering Difficult?

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Students Ahmed, Dmytro, Liam

Classical and Quantum Error Correcting Codes

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Mentors Andrew and John

Students Andrew (diff Andrew) and David (diff David)

Funding

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Why am I telling you this?

The Winkler Foundation

Irwin Winkler has established a charitable foundation that gives money to

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Irwin Winkler has established a charitable foundation that gives money to (a) many worth causes and (b) our REU!

Adam Winkler

Adam Winkler is Irwin's son who administers the foundation.

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Also, the last book was a nominee for the **National Book Award**.

Show me the Money!

Where Does the Winkler Money Go?

Things the NSF won't pay for:

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Things the NSF won't pay for:

- ▶ Money for housing for non-citizens.

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Does Where You Got Your Funding Matter? NO

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None of this will matter except:

1. Google/Zhu & Iribe students will write letters of thanks.
2. Unpaid students: less forms to fill out.
3. Non-citizens can't get ID cards.

My Wife Says that if I Lie to You I Must Tell You

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Joe Biden's Senior Thesis **was not** on
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Classical and Quantum Error Correction.

Questions from You?

I welcome questions now and anytime!