Mentoring and Supervising Students

Miryung Kim

Professor and Vice Chair of Graduate Studies, UCLA

Amazon Scholar, Amazon Web Services

Quick Intro: Miryung Kim

- SE for data intensive computing and heterogenous computing
- Emphasis on quality
- Industry studies on large scale re-architecting / data scientists
  - Microsoft Research
  - Amazon Web Services
- Keynotes at ASE / ISSTA & Distinguished lectures: CMU, UIUC, Max Planck Inst, UMN, UC Irvine, UC Riverside

AI4SE

AI for

Software Engineering

Code Mining, Debugging and Refactoring for Java

github stackoverflow

Data-driven insights industry collaboration

Microsoft

What are your products (or deliverables)?

Philosophy

*“**Focus on the students,** since graduating great students means you’ll produce great research, while focusing on the research may or may not produce great students.”*

I am inspired by my adviser, David Notkin's philosophy about working with students, which he inherited from his academic father, Nico Habermann.

Nico Habermann	David Notkin	Bill Griswold (UC San Diego)	Baishakhi Ray (PhD 2013, Associate Prof @ **Columbia**)
		Kevin Sullivan (U Virginia)	Na Meng (PhD 2014, Associate Prof @ **Virginia Tech**)
		Gail Murphy (UBC)	Myungkyu Song (Postdoc 2016, Associate Prof @ U **Nebraska** Omaha)
		Michael Ernst (U Washington)	Tianyi Zhang (PhD 2019, Asst Prof @ **Purdue**)
		Jonathan Aldrich (CMU)	Muhammad Ali Gulzar (PhD 2020, Asst Prof @ **Virginia Tech**)
		Vibha Sazawal	Jason Teoh (PhD 2021, Twitter => Databricks)
		Tao Xie (Peking)	Qian Zhang (Postdoc 2022, Asst Prof @ **UC Riverside**)
		Miryung Kim (UCLA) and many more	Hong Jin Kang (Postdoc 2024, Asst Prof @ **U Sydney** to start in Fall 2024)

Nurturing Next Generation of Leaders

ACM SIGSOFT Influential Educator Award 2022

- Multiply impact through people
- Gain trust and respect
- Seek out candid feedback

What are Dos and Don’t?

Hiring, Admissions & Departing

Do

- Help out other students / serve on communities
- Mix co-advise and sole-advise
- Screen early and often
- Get involved in admissions committee
- Be cool with rejections & switching advisors, etc.
- Create a comfortable environment for students to **disagree with you**
- Let advisees make their own career decisions

Don't

- Be anxious
- Hire too many at once
- Spend start up too fast or too slow
- Influence and persuade too much

Research Advising

Do

- Schedule regular meetings
- Provide feedback repetitively (in the order of X times)
- Get senior students get involved in grant writing
- Pair up senior / juniors and create sub teams

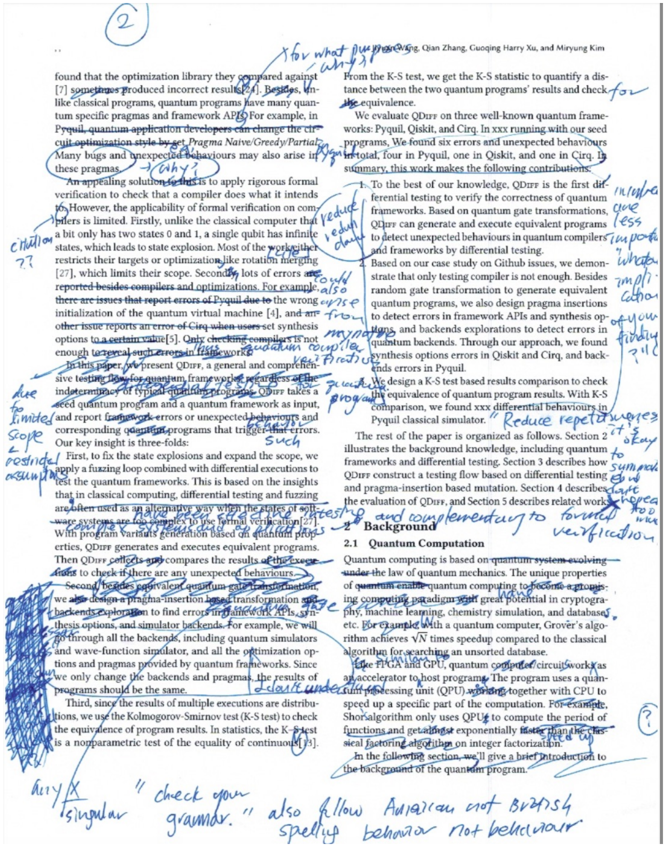
Don’t

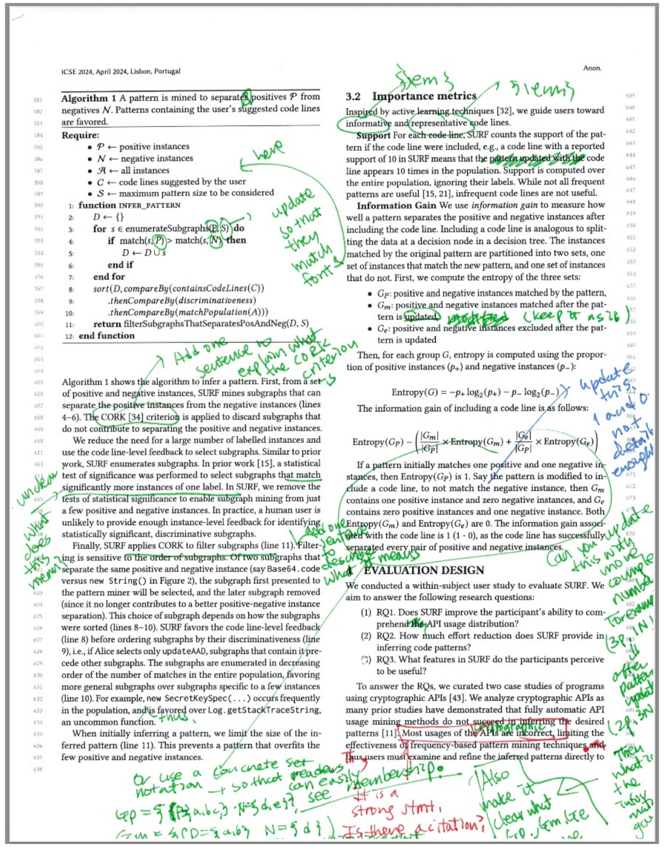
- Cancel regular meetings for paper deadlines, grant deadlines, etc.
- Write introduction, conclusion, motiving examples and table skeletons and request students to fill in results
- Rewrite papers (if you must, do it sparingly)

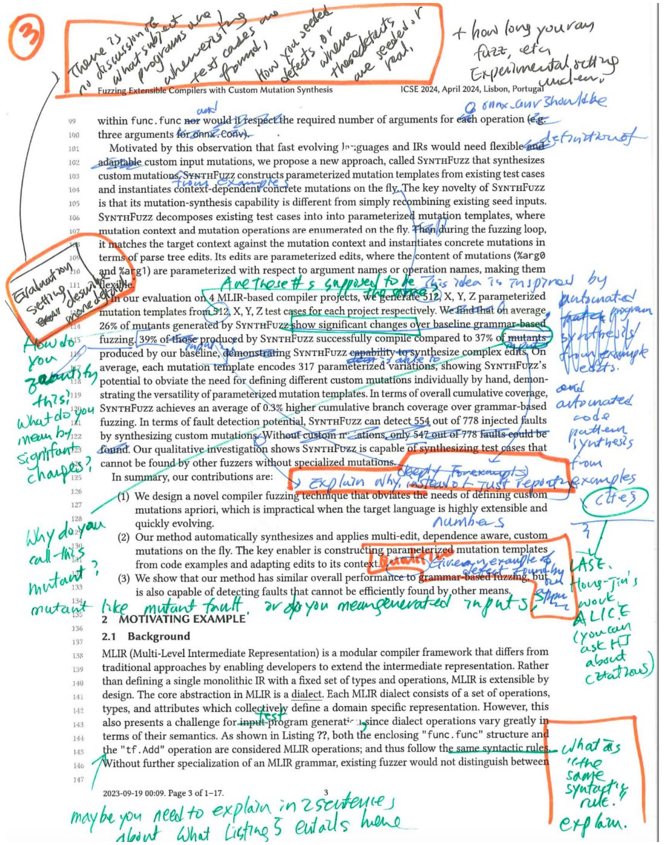
Build **Team** and its **Culture**

- Reading group
- Stop by and work in the lab
- Scrum
- Lunch & team building
- Conference trips
- Reward & recognize awards, papers, etc.
- Demos
- In-person vs. zoom
- Respect boundaries: *No slack, text, and email on weekends, nights, etc. (If you do, write no need to respond at the end)*

Frequent, persistent written feedback







Adjustment according to PhD Career Stage

Year 1-2	Year 3-4	Year 5-6
Confidence Pair-up Submission experience	**Exploration** Ownership Idea Formation **Independence** Industry internship	**More Independence** **Mentoring** Help with grant writing

What about other aspects of mentoring?

Vice Chair of Graduate Studies at UCLA

- Establish clear process
- Consistent and fair
- Empower staff teams
- Navigate HR challenges

Faculty in Residence

- 8 years on-campus residential life mentor

- Noticed students' desire for CS from other depts
- Sensed students' anxiety about finance

- Learn to work with influence
- After 5pm student experiences
- Cooperate with campus units

Professor Miryung Kim, Computer Science, UCLA

“Reflecting Faculty in Residence”

Less Serious Version

- Miryung has degrees in Computer Science. She did well in school. She saw her adviser enjoying mentoring students. So she became a Professor, and she has been going to school for quite some time now. She likes learning something new. In particular, she gets inspiration from what people do in industry. She enjoys helping students, guiding students to graduation and working with others. Seeing students grow makes her proud and her job rewarding. Though she tried to be helpful, some students did not work out for her. Everyone is different and unique. Also each and everyone also changes over time. She is learning how to work with different people.