

Computer Systems RA Openings at UCSD

The **WukLab** at **UCSD** CSE is looking for motivated students (PhD, master, and undergrad) with skills in building and hacking complex software and hardware systems and a passion for doing fun research in the **broad systems area**.

WukLab conducts **world-class, award-winning research** in systems areas and the intersection of systems and other areas like security and machine learning. WukLab builds new OSes, new hardware, new distributed systems, and new networking solutions for next-generation datacenters. WukLab is among the few groups in the world now that build new OSes and full-stack, cross-layer systems. WukLab publishes at highly-selective, top-tier conferences and has won an OSDI best paper award in 2018 and a SYSTOR best paper award in 2019. More information can be found at <http://wuklab.io/>

UCSD is ranked at #9 by csrankings (**#6 in systems**). The CSE department has a special strength in systems research, including OS, networking, security, and architecture. PhD graduates in the systems area are now faculties at top-school and engineers/researchers at major IT companies.

Please feel free to contact Prof. Yiyang Zhang (yiyang@ucsd.edu) for more information. Below are words from current and former WukLab students.

Student A:

WukLab likes reinventing wheels. As a student, we have the chance to build real, large-scale systems that impact and benefit the whole community. WukLab is also practical; we solve real problems and our projects usually involve a lot of fun systems hacking. As a team, we dream big, work hard, and make it happen.

Student B:

WukLab conducts very exciting and cool research. Our research is highly problem-driven; we solve the problems that are valuable in the real world and we aim to make huge impacts.

I think for a PhD student, it's very important for your advisor to really care about you, to help you, and to give you suggestions on your career. Yiyang is more like a mixed role to me that is knowledgeable as a professor, but helpful and accessible as a funny and nice friend. I am

constantly amazed by her passion, research commitment, and willingness to learn new things even as a faculty. She has many wonderful ideas for a fresh PhD student to work on as starting projects. She can also help you discover what really excites you and what your true goal is.

For the above reasons, I'd put Yiying above professors at Berkeley, MIT, Stanford. I mean, big name is very good, but doing research in what you are really excited about and work with cool people is much more important. If you want to take an exciting, interesting, and rewarding PhD adventure, do consider WukLab and change the world with us! I totally believe you guys will love WukLab and find system research amazingly delightful.

Student C:

*When talking about **COMPUTER SYSTEMS**, what kind of **systems** do you have in mind? **WukLab** covers them all. If not, come let us know.*

WukLab works on building next-generation datacenter systems, including but not limited to OS, distributed systems, networking systems, machine learning systems, FPGA systems, and systems security. At WukLab, you get hands-on experience in building and designing real systems. Our captain, Yiying Zhang, is always open to discussing exciting and innovative research ideas. For example, we built a practical side-channel attack model just because we observe networks sometimes are slow (~300ns slow). Please contact Yiying and join us to discuss your cool ideas. Tell her what you want to develop and what you want to discover, and you will be the next student enjoying systems research just like me.

Student D:

WukLab gives you a chance to rethink the current computer system and redesign it from scratch. We are building the next-generation disaggregated data-center hardware and software systems. We believe future datacenters will be truly serverless, and WukLab is leading this research field in the world.

At WukLab, we take on hard (and important) problems other groups may want to avoid. We go out of our comfort zone and learn new things to solve them. At WukLab, we have active discussions on a wide range of systems research topics and industry practices. You can always get some good ideas and learn system design and building skills from Yiying and students around you. If you like to work on hard challenges and big systems problems, our lab will be perfect for you.