

Web profile of Prof. Geoffrey Xie

I received a Ph.D. degree in Computer Science from the University of Texas at Austin, Texas in 1996. I joined the Department of Computer Science of the Naval Postgraduate School in September 1996 and is currently a full professor and associate department chair. I spent sabbaticals as a visiting scientist in the School of Computer Science of Carnegie Mellon University from 2003 to 2004, and in Cambridge University UK from 2010 to 2011.

My CV and publication list are available at <http://faculty.nps.edu/xie>.

Career Highlight

1. Lead author of “On static reachability analysis of IP networks” (IEEE INFOCOM’2005), the first paper to demonstrate the feasibility of static end-to-end reachability analysis for IP networks.
2. Member of a research group considered one of the pioneers of the software defined networking (SDN) concept because of this paper titled “A clean slate 4D approach to network control and management” (ACM Computer Communication Review, 35(5), 2005), which won the ACM Test of Time Award in 2015.
3. Lead author of several papers in early 2000 to shed light on the fundamental weaknesses of using RF wireless protocols for underwater acoustic networks and propose new solutions based on full-duplex channels. Follow-on work in 2011 on mobile network security won the IEEE Ellersick Award.

Expertise and Research Interests

I’m interested in overcoming performance and security limits of current computer systems and networks, by creating solutions grounded in new abstractions and analytic models and then validating these solutions using real-world settings. My recent work is focused in these areas, including a return to AI, really my first calling in graduate studies.

- Software-defined networking (SDN)
- Static network security analysis
- Abstraction driven network design and management
- Mobile cloud computing
- Underwater acoustic networks
- Network mapping
- Deep learning of structured knowledge

Favorite quotes

“Any three people walking by, I find my teacher among them.”
— Confucius (551 BC to 479 BC)

“A journey of hundred miles is only half-done at ninety-mile mark.”
— Xiang Liu (77 BC to 6 BC)