

Abstraction Level	Systems		Algorithm	HW-SW Co-Design	Systems and Architecture			Architecture																						
Domain	Autonomous Drones		Machine Learning in Edge			Mobile Robots		Graph and HPC																						
Challenges	Unknown tradeoffs	Lack of open-source platforms	Heavy computation and large amount of data to be processed with restricted resources					Dealing with large amount of data		Unknown tradeoffs																				
My Contributions	Quantifying tradeoffs and computation profile	Releasing an open-source platform for drone	Developing new distributed computing methods		Exploiting hardware-software synergy	Integrating new robust computing methods for DNNs	Guaranteeing real-timeliness and effectively handling several tasks	Computing power efficiently in robots	Processing where data resides		Quantifying tradeoffs and computation profile																			
Broad Impacts	Facilitating tasks in aerial mapping, exploration, military, disaster recovery, ecology, rescue, and entertainment		Better data utilization, integration, and comprehension in the edge for application such as smart cities, autonomous cars, cellphones, IoT, healthcare, agriculture, construction, rescue, and mapping					Large scale, critical, and super-slow tasks such as vaccine development, and timely prediction of natural disasters such as hurricanes and earthquakes																						
Publications	ASPLOS'21		In Progress	SIGMOD'22	IROS'18	IoTJ'20	EDGE'23	CSCE'23	IEEE Micro'19	DAC'19	IISWC'19 <sup>+</sup>	PEARC'19	ICCD'20	FCCM'20	DAC'19	EDGE'23	DAC'21	EDGE'23	DAC'20	ASPLOS'20	TACO'18	HPCA'20	HPCA'21	HPCA'17	TACO'17	IPDPS'18	JPDC'19	IISWC'17	ISPASS'18	IISWC'21 <sup>+</sup>

[ + Best paper nominee]