Adwait Dongare

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EDUCATION

CARNEGIE MELLON UNIV
PhD in Electrical & Computer Engineering
Expected Aug 2020 | Pittsburgh, PA
Advised by Prof. Anthony Rowe

IIT BOMBAY
BTech in Engineering Physics
minor in Electrical Eng
Aug 2014 | Mumbai, India
CPI: 8.55 / 10.0

RESEARCH INTERESTS

Wireless Systems
Wireless Sensing
Embedded Systems
Time Synchronization
Sensor Networks
Augmented Reality

COURSEWORK

Wireless Communications
Real-Time Embedded Systems
Computer Networking
Adv & Distributed Operating Systems
Intro to Machine Learning
Grad Artificial Intelligence

COMPETITIONS

2018-20 DARPA subterranean chal.
2012-14 Formula student electric

SKILLS

PROGRAMMING
Languages:
C • C++ • Python • Matlab • Shell • Swift
Frameworks:
iOS • GNU Radio

HARDWARE
Microcontrollers:
ARM Cortex-M series • Raspberry Pi series • AVR series
Radios:
Analog Devices Pluto SDR • Decawave UWB • Semtech LoRa (SX1276, SX1257, SX1301) • TI BLE (CC 2540, CC2560)
CAD:
Eagle • SolidWorks

HOBBIES

Cycling, charcoal drawing, photography

EXPERIENCE

APPLE | Software Engineering Intern
June 2019 – Aug 2019 | Cupertino, CA
- Exploring system architectures for indoor location technologies.

TEXAS INSTRUMENTS | Design Engineering Intern
May 2017 - Aug 2017 | Dallas, TX
- Benchmark new oscillators for microcontrollers with integrated radios.

APPLE | Software Engineering Intern
June 2015 – Aug 2015 | Cupertino, CA
- System Firmware for the low-power co-processor in iOS and watchOS devices.

PUBLICATIONS

Charm: Exploiting Geographical Diversity Through Coherent Combining for Low-Power Wide-Area Networks
Dongare, A. • Narayanan, R. • Gadre, A. • Luong, A. • Balanuta, A. • Kumar, S. • Iannucci, B. • Rowe, A.
ACM/IEEE IPSN, 2018 at Porto, Portugal • Won the best paper award

Pulsar: Wireless Propagation-Aware Clock Synchronization
Dongare, A. • Lazik, P. • Rajagopal, N. • Rowe A.
IEEE 2017 at Pittsburgh, Pennsylvania • Won the best presentation award

OpenChirp: A Low-Power Wide-Area Networking Architecture | Workshop paper
Dongare, A. • Hesling, C.• Bhatia, K. • Balanuta, A.• Pereira, R. L. • Iannucci, B• Rowe, A.
IEEE SmartEdge, 2017 at Kona, Hawaii

Timeline: An Operating System Abstraction for Time-Aware Applications
Anwar, F. • D'souza, S. • Symington, A. • Dongare, A. • Rajkumar, R. • Rowe, A. • Srivastava, M.
IEEE RTSS, 2016 at Porto, Portugal

AWARDS

2018	Best paper award	at IPSN'18 for "Charm"
2017	Best presentation award	at RTAS'17 for "Pulsar"
2017	Fellowship	Hsu Chang Memorial Fellowship

RESEARCH

WIRELESS SENSING & EMBEDDED SYS LAB | PhD Candidate
Aug 2014 – Present | Carnegie Mellon University • Pittsburgh, PA
Working with Prof. Anthony Rowe on
- Low-power wide-area networking (Charm)
- Precise time-synchronization and localization for wireless devices (Pulsar)
- Augmented reality for visualizing sensor info (CONIX SmartCities stack)
- Data collection frameworks for sensor networks (OpenChirp).

EXPERIMENTAL HIGH-ENERGY PHYSICS LAB | Undergraduate Researcher
June 2012 – May 2014 | IIT-Bombay • Mumbai, India
Worked with Prof. Pradeep Sarin on developing electronic systems for particle detectors.