

Adwait Dongare

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EDUCATION

CARNEGIE MELLON UNIV

PHD IN ELECTRICAL & COMPUTER
ENGINEERING

Expected Dec 2019 | 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- DARPA subterranean chal.
2012-14 Formula student electric

SKILLS

PROGRAMMING

Languages:

C • C++ • Python • Matlab • Shell • Swift

Frameworks:

iOS • GNU Radio • TensorFlow

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

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

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|------|-------------------------|-------------------------------|
| 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.