

# Adwait Dongare

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<http://adwait.dongare.com>  
adongare@cmu.edu | +1 (412)330-7550

## 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 - LOCATION TECHNOLOGIES

June 2019 – Aug 2019 | Cupertino, CA

### TEXAS INSTRUMENTS | DESIGN ENG INTERN - KILBY RESEARCH LAB

May 2017 - Aug 2017 | Dallas, TX

### APPLE | SOFTWARE ENGINEERING INTERN - CORE OPERATING SYSTEMS

June 2015 – Aug 2015 | Cupertino, CA

## PUBLICATIONS

### ALL THAT GLITTERS: LOW-POWER SPOOF-RESILIENT OPTICAL MARKERS FOR AUGMENTED REALITY

Sharma, R • Dongare, A • Miller, J • Wilkerson, N • Cohen, D • Sekar, V •  
Dutta, P • Rowe, A.

(To appear) ACM/IEEE IPSN, 2020 at Sydney, Australia

### 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, sensor  
networking, precise time synchronization, localization and augmented reality.

### 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.