

# Abenezer Wudenhe

awude001@ucr.com  
(240) 418-4302 (mobile)

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## EDUCATION

### University of California, Riverside (UCR)

- PhD in Computer Science
- SMART Fellow
- Chancellor's Distinguished Fellow

Expected: May 2023

### University of Maryland, Baltimore County (UMBC)

- BS in Computer Engineering
- Meyerhoff Scholar
- NSA Scholar
- Cum Laude

May 2018

## RESEARCH EXPERIENCE

### NCSU Extreme Storage and Computer Architecture Lab (ESCAL) 2018 Aug – Present

#### *Graduate research assistant to Dr. Hung-Wei Tseng*

- Lab focus on memory acceleration with a focus on computer architecture
- Creating NVME accelerated applications

### University of Michigan Lab 4PROGRESS REU

2017 May - Aug 2017

#### *Undergraduate research assistant to Dr. Chad Jenkins*

- Applied cluster computing methods to robotic visualization techniques and object recognition
- Utilized computer networking and Message Passing Interface (OpenMPI) for applications
- Developed GPU accelerated image rendering using Nvidia drivers and CUDA programming

### Electroencephalograph (EEG) Study on Image Formation

2016 May - Aug 2016

#### *Undergraduate research assistant to Dr. Fow-Sen Choa*

- Examined a new approach to link single measurement with behaviors that can monitor brain functions reproducibly without repeating measurements.
- Organized data management from experiments
- Programmed Matlab code for 3D graph plotting and analysis

### High Performance Computing REU

2015 May - Aug 2015

#### *Undergraduate research assistant to Dr. Matthias Gobbert*

- Applied parallel computing techniques to the Stochastic Origin Ensemble algorithm for the reconstruction of images of secondary gammas emitted during proton beam therapy
- Conducting Performance test on “Maya” server cluster
- Show results and recommendation to speed up servers

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## CONFERENCE PRESENTATIONS

A. Wudenhe. Three-dimensional EEG signal tracking for reproducible brain activity monitoring. Poster presentation delivered at the Institute of Electrical and Electronics Engineers (IEEE) Signal Processing in Medicine and Biology Symposium (SPMB16), Philadelphia, PA., December 3, 2016.

A. Wudenhe, F. Avila-Soto, A. Beri, E.Valenzuela. Parallelization for Fast Image Reconstruction using the Stochastic Origin Ensemble Method for Proton Beam Therapy. Poster presentation delivered at the UMBC Summer Undergraduate Research Fest (SURF), Baltimore, MD, August 5, 2015.

## PUBLICATION

A. Wudenhe, F. S. Choa, Q. Meng, Three-dimensional EEG signal tracking for reproducible brain activity monitoring. IEEE Xplore Digital Library 2017. 7846869.

Q. Meng, D. Gupta, A. Wudenhe, X. Du, L. Hong, F. Choa, "Three-Dimensional EEG Signal Tracking for Reproducible Monitoring of Self-Contemplating Imagination", Advances in Science, Technology and Engineering Systems Journal, vol. 2, no. 3, pp. 1634-1646 (2017).

## TECHNICAL SKILLS

- Experience programming in C, C++, python, html, MPI, php, Arduino, CUDA, OpenMPI
- Experience writing technical documents using LaTeX
- Proficient with Xilinx Design Tool, MATLAB, Cadence's Allegro Design Entry CIS, Atmel Studio

## RELEVANT COARSE WORK

### Core Computer Courses

Principles of VLSI Design

Operating Systems

Computer Architecture

Electronic Circuits

Introductory Computer Science I & II

Principles of Digital Design

Systems Design and Programing

Numerical Computations

FPGA Architecture and Application

Probability and Random Processes

C Programing and Embedded Systems

Discrete Structures

Basic Circuit Theory

Data Structures

## PROFESSIONAL ACTIVITIES

### IEEE President

2017 – Present

- Conduct and coordinate meetings between Baltimore IEEE branch
- Supervise workshops and socials
- Facilitate outreach in STEM fields to minority schools in Baltimore

### IEEE Head Secretary

2016 – 2017

- Lead circuit design workshops
- Schedule and fundraise academic events

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## REFERENCES

Hung-Wei Tseng, PhD  
Assistant Professor  
Department of CS and the Department of ECE  
North Carolina State University  
+1 (919) 515-7354  
[htseng3@ncsu.edu](mailto:htseng3@ncsu.edu)

Chad Jenkins, PhD  
Professor  
Department of Computer Science and Engineering  
University of Michigan  
(734) 763-6985  
[ocj@umich.edu](mailto:ocj@umich.edu)

Fow-Sen Choa, PhD  
Professor  
Department of Computer Science and Electrical Engineering  
UMBC  
(410) 455-3272  
[choa@umbc.edu](mailto:choa@umbc.edu)

Matthias K. Gobbert, PhD  
Professor  
Department of Mathematics and Statistics  
UMBC  
410-455-2404 (Office)  
[gobbert@umbc.edu](mailto:gobbert@umbc.edu)

Bonny Tighe  
Senior Lecturer  
Department of Mathematics and Statistics  
UMBC  
410-455-2425 (Office)  
[tighe@umbc.edu](mailto:tighe@umbc.edu)

Mudduppa Gowda, PhD  
Professor  
Department of Mathematics and Statistics  
UMBC  
410-455-2431 (Office)  
[gowda@math.umbc.edu](mailto:gowda@math.umbc.edu)