

Abenezer Wudenhe

awudenh@ncsu.edu

3320 Walnut Creek Parkway • Apartment O • Raleigh, NC 27606 • (240) 418-4302

EDUCATION

North Carolina State University (NCSU)

- PhD in Computer Science
- SMART Fellow
- SREB Fellow

Expected: May 2022

University of Maryland, Baltimore County (UMBC)

- BS in Computer Engineering
- Meyerhoff Scholar
- NSA Scholar

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 programing

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
- Programed 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

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