Abenezer Wudenhe

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

EDUCATION

University of California, Riverside (UCR)
- PhD in Computer Science — Expected: May 2023
- SMART Fellow
- Chancellor's Distinguished Fellow

University of Maryland, Baltimore County (UMBC)
- BS in Computer Engineering — May 2018
- Meyerhoff Scholar
- NSA Scholar
- Cum Laude

RESEARCH EXPERIENCE

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	Numerical Computations
Operating Systems	FPGA Architecture and Application
Computer Architecture	Probability and Random Processes
Electronic Circuits	C Programing and Embedded Systems
Introductory Computer Science I & II	Discrete Structures
Principles of Digital Design	Basic Circuit Theory
Systems Design and Programing	Data Structures

PROFESSIONAL ACTIVITIES

IEEE President 2017 – 2018

- 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
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