

# Francis Sabado

## WORK EXPERIENCE

**Sandia National Laboratories: Albuquerque, NM**

**Senior Member of the Technical Staff, January 2018 - Present**

- R&D Scientist/Engineer, Computer Science

**University of Arkansas Research Lab: Fayetteville, AR**

**Graduate Research Assistant, August 2012 – December 2017**

- Developed software tools for designing asynchronous circuits and 3D circuits.
- Designed digital circuits and systems for ultra-low power design, asynchronous logic, and 3D ICs.

**Research Lab System Administrator, May 2014 – December 2017**

**Hewlett-Packard: Houston, TX**

**Software Engineer Intern, June 2015 – August 2015**

- Provided support and maintenance for a critical infrastructure tool used by 6 internal HP teams.
- Developed a password manager application to support 65,000 HP Inc. employees.

**University of Arkansas: Fayetteville, AR**

**Undergraduate Researcher, Jan 2011 – May 2012**

- **Research Fellowship:** Analysis of Digital Circuits under Extreme Temperatures
- Android Development: SmartDrive – Cloud Enabled Mobile System for Safe Driving
- Angry Prims: Interfacing with the Virtual World via Microsoft Kinect and SecondLife

## EDUCATION

**University of Arkansas – Ph.D. Computer Engineering, GPA: 4.0 | December 2017**

- Doctoral Academy Fellowship

**University of Arkansas – M.S. Computer Engineering, GPA: 4.0 | Dec 2015**

**University of Arkansas – B.S. Computer Engineering, GPA: 3.95 | May 2012**

- Highest Distinction | Minor: Mathematics
- Dean's List, Chancellor's List, Governor Scholarship, Chancellor Scholarship

## RESEARCH PROJECTS

**Asynchronous Three-Dimensional Integrated Circuits (2016) – Team Lead**

- Developed software tool flow for designing asynchronous 3D circuits and cell libraries.

**Asynchronous Fused Floating Point Complex Multiplier (2016)**

- Developed for low power applications: Radix-8 Encoded, Multi-staged/Pipelined.

**MSP430 Tape-out IBM 90nm CMOS (2015)**

- Led the physical design of the synchronous MSP430 circuit from RTL to GDSII.

**Adaptive Hexacopter (2014)**

- Fault-tolerant hexa-copter implemented using ardupilot and Nexys 4 FPGA.

**Differential Power Analysis Attack and Mitigation on AES (2013)**

- Hardware Security – Side channel attack using power correlation on 128-Bit AES.

**More Projects @ [www.fsabado.com](http://www.fsabado.com)**

## SELECTED PUBLICATIONS

- Di, Jia, **Sabado, F.**, et. al. "Recent Advances in Low Power Asynchronous Circuit Design ". Journal of Low Power Electronic 2017. September 2017.
- Habimana J., **Sabado, F.**, and Jia Di, "Multi-Threshold Dual-spacer Dual-rail Delay-insensitive Logic: An Improved IC Design Methodology for Side Channel Attack Mitigation". IEEE International Symposium on Circuits & Systems 2016. 11 August 2016.
- Caley, L., Chien-Wei Lo, **Sabado, F.**, Jia Di, "A comparative analysis of 3D-IC partitioning schemes for asynchronous circuits," IC Design & Technology (ICICDT), 2014 IEEE International Conference on, pp.1,4, 28-30 May 2014

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## OBJECTIVE

Experienced software engineer/researcher looking for a full-time position in software engineering/research related role.

## SKILLS

- **Proficient:** Java, Python, C++, SQL
- **Basic:** Perl, HTML, PHP, CSS
- **Development:** IntelliJ, Git, Vim, Atom, Eclipse, Netbeans

## AWARDS

- Arkansas Challenge Scholarship (2008-2012)
- Engineering Freshmen of the Year Finalist (2008)
- National Merit Corporation Scholar: Rheem (2008)
- Governor's Award for Musical Excellence (2008)
- Phillip Murray-USWA Scholar (2008)
- Asian and Pacific Islander Scholar : Wal-Mart (2008)

## HONOR SOCIETY

Tau Beta Pi, Eta Kappa Nu, Phi Kappa Phi, IEEE Student Member, ACM Member

## TEACHING EXPERIENCE

- Programming Foundations – Summer, Spring 2013
- Digital Design – Fall 2012

## MEMBERSHIPS

- Filipino Students Organization: Secretary (2016), Treasurer (2015)
- Game Development Club: Vice President (2011)
- Hall Senator: Senator (2008-2009), Representative (2009-2012)

## PORTFOLIO

Please check out my website:

[www.fsabado.com/#resume](http://www.fsabado.com/#resume)