Aman Keshar Maskay

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Education

Purdue University — Dec 2021
MS Electrical Engineering - ***CGPA*** - ***3.89*** — *West Lafayette, IN*

University of Maine — May 2015
BS Electrical Engineering - ***CGPA*** - ***3.89*** — *Orono, ME*

Publications

P. Debashis, **A. K. Maskay**, P. Upadhyaya, and Z. Chen, "Spin–Orbit torque controlled stochastic oscillators with synchronization and frequency tunability," *Journal of Applied Physics*, vol. 131, no. 12, p. 123901, 2022. *https://doi.org/10.1063/5.0077237*

Technical Experience

Product Engineer — May 2022 – Present
Mobile/Mixed Signal IP , Qualcomm Inc. — *San Diego, CA*

- Characterize mixed signal IP as well as mobile system IC products.
- Develop and maintain tests and methodologies in Labview and python based environments.

Graduate Research Student — Jan 2019 – Dec 2021
Upadhyaya Group, Purdue University — *West Lafayette, IN*

- Developed a partial theoretical model for low-barrier nanomagnet based stochastic oscillators.
- Studied state dynamics of electrically controlled stochastic oscillator/s in isolated and coupled systems.
- Simulated coupled nanomagnets and systematically studied its feasibility for oscillatory computing.
- Developed and simulated HSPICE model for multiferroic FETs as memory devices and as p-bit devices.

Product Engineer — Jun 2015 – May 2018
High Speed DAC, Analog Devices Inc. — *Wilmington, MA*

- Supported product development and release of AD9172 a 12GSps 16-bit RF Digital-Analog Converter (DAC).
- Characterized DAC metrics such as dynamic range, distortions, linearity and noise spectral density.
- Evaluated product performance with WCDMA, GSM, LTE and other wireless comms standards.
- Developed and maintained python libraries for test equipment/hardware control for automated data acquisition.
- Qualified reliability of design and manufacture against ESD, latchup and accelerated lifetime tests.
- Contributed to design and debug of evaluation boards for lab testing and customer sampling.

Product Engineering Intern — Jun 2014 – Aug 2014
High Speed DAC, Analog Devices Inc. — *Wilmington, MA*

- Investigated the impact of DAC-QMOD interface design on overall AC performance of signal chain.
- Identified and optimized phase calibration and digital gain for comparative study.
- Provided feedback to design engineers in defining next generation high-speed DAC architectures.
- Summarized and presented results and recommendations as a poster and PowerPoint.

Student Programmer **Mar 2012 – Nov 2012**

Climate Change Institute, University of Maine. *Wilmington, MA*

- Converted GRIB/2 to NetCDF and ASCII file format using NCAR NCL.
- Developed programs to generate production quality visualizations of climate prediction models.
- Organized and updated climatic data for 5 climate reanalyses,and 80,000 global weather stations.
- Developed preliminary web interface and server-side program for users to efficiently navigate the visualizations.

Languages & Skills

Skills	RF; mixed signal ASIC characterization; modelling and simulation; circuit analysis; test automation; schematic, PCB design; deep learning; QUBO
Languages	MATLAB, Python, IBM Qiskit, C(Programming Language)
Design/Simulation	Synopsis HSPICE, mumax, EDA softwares, Cadence Virtuoso and Allegro, Advanced Design System (ADS), Wolfram Mathematica
Technology/ Frameworks	IBM Quantum, Linux, GitHub, SVN, Google Colab, PyTorch, Scikit-Learn, D-Wave Leap IDE, LaTeX
Communication	English, Nepali, serviceable Hindi

Teaching Experience

Graduate Teaching Assistant

Electrical Fundamentals Laboratory, Purdue University **Aug 2019 – Dec 2021**

- Conducted weekly labs – presented lab briefing.
- Assisted students with experiment setup and debug.
- Guided students in operation of electrical test equipment and prototype circuit construction.

Electronics I, Purdue University **Aug 2018 – May 2019**

- Assisted students in critical understanding of electronic components, circuit design and analysis.
- Developed and graded course content such as homework, design and SPICE simulation projects.

Awards & Honors

- William Stoy, Jr. '71 and Judith Kenoyer Stoy Scholarship recipient (2013, 2014)
- Rajendra and Neera Singh Scholarship recipient (2014/15)
- Presidential Scholar (2011, 2013, 2014)
- Phi Kappa Phi Academic Achievement Award (2012)

Involvement

- Eta Kappa Nu (HKN) honors society – Member (2013-present) Secretary Delta Kappa chapter (2014)
- Phi Kappa Phi (PKP) honors society – Member (2013-2015)