

KLAUS OKKELBERG

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US Citizen

OBJECTIVE

Ph.D. student in electrical engineering seeking a challenging engineering internship for summer 2015 in any US location

EDUCATION

Georgia Institute of Technology , Atlanta, GA	2014–Present
Ph.D. in Electrical and Computer Engineering	
Emphasis in Systems/Controls and Telecommunications	
University of New Orleans , New Orleans, LA	2011–2014
M.S.E. in Electrical Engineering	
Thesis on nonlinear filtering for battery health management	
GPA: 4.0/4.0	
The Pennsylvania State University , University Park, PA	2007–2011
B.S. in Electrical Engineering	
Schreyer Honors College Scholar (Representing the top 1% of Penn State students)	
Honors Thesis on nonlinear control system for nuclear magnetic spectroscopy	
GPA: 3.8/4.0	

EXPERIENCE

Xilinx, Inc., San Jose, CA (Designer of programmable logic devices)

Intern

- Improved computer mathematical modeling of physical field-programmable gate array (FPGA) devices through Cadence modeling and Matlab/Verilog simulation
 - Increased accuracy of model to physical result by 20%
 - Improved performance by a factor of 15 in speed
- Developed theoretical model of switching noise magnitude
- Added unattended simulation functionality
- Active in intern activities and participated in organic farming

June 2014 –
Aug. 2014

University of New Orleans, New Orleans, LA

Research Assistant under Dr. Huimin Chen

- Studied accuracy and speed of various nonlinear filters as related to estimating battery state of charge
- Proposed adjustments to the Unscented Kalman Filter and the Cubature Kalman Filter that increase filtering stability and accuracy
- NASA-funded Masters through Ames Research Center Scholarship

July 2012 –
May 2014

Pennsylvania State University, University Park, PA

Research Assistant under Dr. Jeffrey L. Schiano

- Researched a marginal oscillator with a nonlinear feedback element for use in nuclear magnetic spectroscopy
- Studied sampled-data implementation in presence of thermal noise
- Derived sensitivity of a Robinson marginal oscillator
- Optimized performance of simulation model by a factor of 100 in speed

March 2010 –
May 2011

PROJECTS

- Adaptive observer for optimal impulse discharge of a battery
- Video jitter removal using point feature matching and phase correlation
- Image reconstruction from incomplete, quantized measurements using discretized solution of Euler-Lagrange equation
- Estimation of vehicular dynamics through nonlinear filtering of 3 parameters, 7 variables, and 2 inputs
- Investigation of resonant tunneling through a double-barrier diode
- Quantum interference visibility in an oscillating macroscopic mirror
- High-speed adaptive decision feedback equalization for SerDes communications
- Digital clock with laser display system for Senior Design Project

PUBLICATIONS

“**Comparison of Nonlinear Filtering Methods for Battery State of Charge Estimation**” University of New Orleans, 2014.
“**Conversion Gain and Sensitivity in Marginal Oscillators: Continuous and Sampled-Data Negative Resistance Converters**” The Pennsylvania State University, 2011.
“**The Pulsar: A Revolution in Display Technology**” Pennsylvania Center for the Book, Penn State University, 2010.
“**Domino Tilings of Rectangles with Fixed Width**” Journal of the Pennsylvania Governor’s School for the Sciences, 2007.

NOTES

Applications: Matlab/Simulink, PSPICE, Multisim, Mathematica, AutoCAD, Solidworks, Minitab, Photoshop, and MS Office

Programming: Matlab, Fortran, C, Java, Python, Visual Basic, Perl, Tcl/Tk, LabView, and LaTeX

Social Skills: Good communication skills, strong problem solving ability, and excellent at teamwork

Volunteering: Shell Eco-Marathon, Shell Oil/Viva Technology competition mentor for underprivileged students in New Orleans, Bike Around the Bay, Penn State philanthropy for children with cancer, and Penn State campus beautification

Interests: Cooking, swimming, ping pong, running, chess, and photography