

Rajarshi Roy
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rajarshiroy.github.io

EDUCATION:

Stanford University

Jan 2014 - Jun 2017

Master of Science in Electrical Engineering (GPA: 3.77/4.00)

- Honors Cooperative Program with NVIDIA Corp.
- Outstanding Poster Project Award for CS224n (Deep Learning for NLP)
- A+ for CS231n (Convolutional Neural Networks)
- Best Modeling Project Award for CS348b (Image Synthesis Techniques)
- Best of Visuals Project Award for CS148 (Intro. Computer Graphics)
- Coursework:

Artificial Intelligence: Convolutional Neural Networks, Deep Learning for Natural Language Processing, Artificial Intelligence, Computer Vision, Machine Learning, Convex Optimization I, Intro. Linear Dynamical Systems.

Computer Architecture: Computer Systems Architecture, Program Analysis and Optimizations, Introduction to VLSI Systems.

Computer Graphics: Image Synthesis Techniques, Interactive Computer Graphics.

University of Illinois at Urbana-Champaign

Aug 2009 - Dec 2012

Bachelor of Science in Electrical Engineering with Minor in Computer Science (GPA: 3.88/4.00)

- Graduation with High Honors
- Henry O. Koehler Memorial Scholarship recipient.
- Best Engineered Project Award for ECE445 (Senior Design Project)
- Coursework:

Computer Architecture: Computer Architecture (Graduate Level), Computer Organization and Design, Computer Systems Engineering, Digital Systems Lab, Data structures and Algorithms, Discrete Structures.

Circuits and Signal Processing: Advanced Digital Projects Lab, Embedded DSP Lab, Digital Signal Processing, Analog Signal Processing, Electronic Circuits, EM Fields and Waves, Solid-State Devices.

WORK EXPERIENCE:

NVIDIA Corp. (GPU ASIC Division)

Jan 2013 - Present

Senior ASIC Engineer

- Responsible for driving development and verification of the latest GPU architectures used throughout NVIDIA's product line.
- Responsibilities involve understanding the functionality of new architectures and developing an ISA level program generator that is used for evaluating functionality, performance and power consumption.
- Additional responsibilities involve efforts of optimizing hardware design and verification methods using artificial intelligence techniques.
- Experience with C++, Python, Verilog, Tensorflow and a deep understanding of the GPU realtime graphics/raytracing/parallel computation pipelines, GPU core architecture, GPU program execution model and GPU ISA.

University of Illinois at Urbana-Champaign

Aug 2010 - Dec 2012

Teaching Assistant

- ECE 445 (Senior Design), ECE 342 (Electronic Circuits), ECE 210 (Analog Signal Processing)
- Mentored four groups of students who won course awards on their projects as teaching assistant for the ECE445 (Senior Design) course.

Siemens Medical Solutions Inc. (Molecular Imaging Division)

Jan 2011 - Aug 2011

Hardware Engineering Intern

- Designed and tested safety system prototypes (ultrasonic, capacitive, 3D vision) for SPECT scan machines.
- Experience with Microsoft Kinect 3D vision libraries, ultrasonic and capacitive sensor technologies, Atmel microcontrollers, embedded programming, PCB design, EMI compliance testing, hardware validation documentation and contacting sensor manufacturers.

PROJECTS:

Deep Learning 3D Mesh Texturing Using Geometry Images (Stanford CS231n A+, Pursuing Publication):

- Developed a method of texturing un-textured 3D object meshes using conditional generative networks trained on example textured meshes.

Natural Language Question-Answering Using Deep Learning (Stanford CS224n Outstanding Poster Award):

- Developed a lightweight decoder network for a co-attention encoder network with good performance on reading comprehension answering.

Kinect as PC Gaming Interface (Featured on hackaday.com):

- Developed a smooth gesture-based interface for racing and first person shooter PC games using the Microsoft Kinect depth sensor.

Rays of Light through Stained Glass Windows (Stanford CS148 Summer 2016 Best Visuals Project Award)

Portable Braille e-Book Reader (UIUC ECE445 Spring 2012 Best Engineered Project Award)

PC ambient backlighting system (Featured on lifehacker.com)