

NATHAN VANHOUDNOS

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

Ph.D. in Statistics & Public Policy

Expected May `14

M.S. in Statistics

May `10

University of Illinois at Urbana-Champaign, Urbana, IL

B.S. in Physics

May `05

Honors: cum laude, highest departmental distinction

University of Illinois at Urbana-Champaign, Urbana, IL

B.S. in Liberal Arts & Sciences

May `05

Major: Mathematics

Honors: cum laude, departmental distinction

AWARDS

- Program in Interdisciplinary Education Research (PIER) Fellowship, Carnegie Mellon **Aug `09**
 - Office of Campus Emergency Planning Recognition Award **May `09**
 - Teachers Ranked as Excellent by Their Students, University of Illinois **May `07**
 - Chancellor's Scholar, University of Illinois **May `05**
 - James Scholar, University of Illinois **May `05**
 - Student Laureate of the Lincoln Academy, University of Illinois **Nov `04**
 - Institutional Endorsement for the Rhodes Scholarship, University of Illinois **Oct `04**
 - Teachers Ranked as Excellent by Their Students, University of Illinois **Dec `03**
 - Teachers Ranked as Excellent by Their Students, University of Illinois **May `03**
 - Eagle Scout, Boy Scouts of America **July `99**
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RESEARCH EXPERIENCE

Joint Ph.D. Program in Statistics & Public Policy, Carnegie Mellon University, Pittsburgh, PA

PIER Fellow – Professor Brian Junker

Aug `09-current

- Earned a Master's of Science in Statistics.

Institute for Genomic Biology, University of Illinois at Urbana-Champaign, Urbana, IL

Graduate Research Assistant – Professor Taekjip Ha

May `07-Sept `07

- Developed and enhanced software to acquire single molecule biophysics data. (C++, wxWidgets)
- Assisted in building and calibrating a new microscopy station for single molecule measurements.

Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL

Academic Hourly Research Assistant – Professor Taekjip Ha

Jun `06 – Aug `06

Undergraduate Research Assistant – Professor Taekjip Ha

Aug `03 – Mar `04

- Collected single molecule biophysics data relating to the heterogeneity of the hairpin ribozyme, abortive synthesis of T7 helicase, and the binding modes of yeast RPA.
- Collected data on the photophysics of the interaction of Cy3 and Cy5 dyes. Found that the frequency of "blinking" was dependent on the intensity of laser light.
- Analyzed the collected data with a variety of MATLAB and custom programs.

Department of Geology, University of Illinois at Urbana-Champaign, Urbana, IL

Undergraduate Research Assistant – Professor Wang-Ping Chen

Jun `02 – Jul `04

- Installed seismic stations along the north-south axis of Nepal in 2002, and in Tibet in 2004.

- Analyzed seismograms using custom software to assist in the placement of further stations.

Dept. of Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign, Urbana, IL

McNair Scholar – Professor Eliot Fried

May '01 – Aug '02

- Simulated disclinations in nematic elastomers using a FORTRAN 77 code.
- Collected data relating to the flocculation of fibrous materials and wrote software to implement experimental protocols on the motorized setup.

WORK EXPERIENCE

Office of the CIO & Dept. of Public Safety, University of Illinois at Urbana-Champaign, Urbana, IL

Acting Liaison for Emergency Communications and Planning

Nov '08 – Aug '09

- Coordinated the six month upgrade of UI-Alert, our campus Emergency Notification System, by interfacing with our new vendor's engineers and delegating tasks to our internal IT staff.
- Analyzed performance data from emergency tests and presented the analysis to Public Safety decision makers at a non-technical level to enable them to make informed decisions.
- Trained end users how to use the new system and worked with the Director for Emergency Planning to develop a binder detailing emergency scenarios and how it would be activated.
- Served as a point of consolidation for various campus emergency communications efforts such as the integration of digital signage and departmental alert systems.

Office of the CIO, University of Illinois at Urbana-Champaign, Urbana, IL

Service Manager for UI-Alert - ½ Time Appointment

Feb '07 – Nov '08

- Modified the source code (ASP.NET, MS SQL Server '05 Stored Procedures) to increase the output rate of text and email messages by 30%.
- Assisted in writing the technical specifications of the RFP to replace UI-Alert.
- Conducted evaluations of vendor's RFP responses and selected two finalists on technical merit.

CITES (Campus IT and Educational Services), University of Illinois at Urbana-Champaign, Urbana, IL

Research Programmer

Oct '07 – Nov '08

- Managed various UNIX servers and research clusters for University clients and professors.
- Wrote and/or modified programs to fulfill various needs. (perl, ASP.NET, shell scripts).
- Served on the search committee that hired my replacement.

Teach for America, Marvell High School, Marvell, AR

High School Teacher

Jun '05 – Dec '06

- Taught Statistics, Physics, Computer Science, AP Calculus, Math Enrichment, and Physical Science.
- Chaired NASA Explorer School committee to improve at-risk student's awareness of math, science, and technology careers. Led weekly meetings to plan outreach events.
- Co-chaired a committee to redesign the lunch detention system and wrote software to automate parent contact for the in school suspension system. (ruby, LaTeX)

Champaign-Urbana for Battleground States, Urbana, IL

Founder & Volunteer

Aug '04 – Nov '04

- Recruited 35 volunteers for 6 trips to knock on 2,900 doors for the 2004 presidential election.
- Arranged housing for volunteers travelling to Iowa, Missouri, and Ohio via the state campaigns.
- Raised funds, reimbursed expenses, and secured a John Edwards event for my best volunteers.

UNIVERSITY TEACHING EXPERIENCE

Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL

Teaching Assistant – Physics 102, College Physics: E&M & Modern

Jan '07 – May '07

Teaching Assistant – Physics 111, University Physics: Mechanics

Aug '03 – Dec '03

Teaching Assistant – Physics 112, University Physics: Electricity & Magnetism

Jan '03 – May '03

- Taught laboratory sections of various undergraduate physics courses.
- Earned a campus award each time I taught based on end of semester student evaluations.

PUBLICATIONS

Journal Article

- Náblek, J., et al. (2009). "Underplating in the Himalaya-Tibet Collision Zone Revealed by the Hi-CLIMB Experiment." *Science* 11 September 2009: Vol. 325. no. 5946, pp. 1371 – 1374

Newspaper Article

- VanHoudnos, N. "U of I needs emergency text message system." [Daily Illini](#) 19 April 2007