

# Christopher J Harris

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<https://cjharrisatru.wordpress.com/>

Goal	Return to the <i>industrial sector</i> , to create new products or improve existing ones, whether the target entity involves material, equipment, software, or humans.																	
Profile	<i>Chemical Engineer</i> with over 20 years of graduate research in the semiconductor realm seeking to redefine opportunity: <table><tr><td>crystal growth</td><td>plasma chemistry</td><td>computer modeling</td></tr><tr><td>surface science</td><td>laser excitation</td><td>python language</td></tr><tr><td>chemical vapor deposition</td><td>optical characterization</td><td>statistical analysis</td></tr><tr><td>molecular beam epitaxy</td><td>electrochemical methods</td><td>process control</td></tr><tr><td>semiconductor devices</td><td>applied neuroscience</td><td>laboratory automation</td></tr></table>			crystal growth	plasma chemistry	computer modeling	surface science	laser excitation	python language	chemical vapor deposition	optical characterization	statistical analysis	molecular beam epitaxy	electrochemical methods	process control	semiconductor devices	applied neuroscience	laboratory automation
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surface science	laser excitation	python language																
chemical vapor deposition	optical characterization	statistical analysis																
molecular beam epitaxy	electrochemical methods	process control																
semiconductor devices	applied neuroscience	laboratory automation																
Literature	<i>Real-time Monitoring of Surface Processes by P-polarized Reflectance</i> , J. of Vacuum Science & Technology: <b>1997</b> , A15, 807. <i>Molecular Layer Epitaxy by Real-time Optical Process Monitoring</i> , Applied Surface Science: <b>1997</b> , 112, 38. <i>Boron Incorporation in Hydrogenated Amorphous Silicon Films Prepared by Chemical Vapor Deposition</i> , J. of Noncrystalline Solids: <b>1987</b> , 97, 1419. <i>Laser-induced Chemical Vapor Deposition of Hydrogenated Amorphous Silicon: Photovoltaic Devices and Material Properties</i> , Solar Cells: <b>1987</b> , 21, 177.																	
Experience	<i>Engineering Consultant</i> , LocalSolo Freelance: Vancouver, BC, Canada (1/18 to present) Provide technical resources to help organizations reach their full potential.  <i>Substitute Teacher</i> , Source4Teachers: Cherry Hill, NJ (12/13 to 2/15) Deal with special ed students with behavioral issues under the guidance of a child psychologist; present math, science, general curricula to individuals ranging from preschool through high school.  <i>Research Assistant</i> , Maine Chemistry Dept: Orono, ME (8/03 to 5/06) Apply cyclic voltammetry, an electrochemical measurement, to find: catalytic activity in gold compounds for methanol oxidation, and electrochemiluminescence (ecl) in a ruthenium compound for DNA analysis.  <i>Research Assistant</i> , NCSU Materials Science Dept: Raleigh, NC (5/96 to 5/99) Grow GaP heterostructure films on Si in a chemical beam epitaxy system, analyze plane polarized reflectance spectroscopy (PRS) / laser light scattering (LLS) in-situ optical signals, develop a radio frequency nitrogen plasma source for GaN film growth, and do a substrate temperature calibration based on reflectivity measurements.  <i>Research Assistant</i> , NCSU Materials Science Dept: Raleigh, NC (1/87 to 5/89) Design / build a microwave plasma chemical vapor deposition chamber, achieve a unique ellipsoidal plasma advantageous for film growth over typical spherical plasmas, and grow polycrystalline diamond films on Si.  <i>Research Specialist</i> , MIT Advanced Energy Materials Lab: Cambridge, MA (11/84 to 1/87) Use infrared laser to produce ceramic powders, amorphous Si films, and alumina-based crystals. Analyze transmitted / scattered optical signals from ceramic powder process, giving rise to a computer monitoring scheme. Set up interferometer to measure film thickness, providing a realtime signal, to calibrate growthrate. Develop process control loop for laser cavity tuning, leading to more reliable film properties. Collect in-situ stress measurements of growing films, through deflection of an optical laser, as sample curvature evolves. Optimize growth parameters of amorphous Si solar cells, and scale-up new chemistry of ceramic powders.																	
Education	MS <i>Physical Chemistry</i> MS <i>Material Science</i> BS <i>Chemical Engineering</i> HS <i>Diploma</i>	Rutgers: New Brunswick, NJ North Carolina State: Raleigh, NC Texas A&M: College Station, TX Waltham High: Waltham, MA	Jan 2003 unofficial May 1984 Jun 1979															
Honor	<i>Bausch &amp; Lomb Science Award</i>																	



DECEMBER 10, 2014

# Statement of Accomplishment

WITH DISTINCTION

## CHRISTOPHER HARRIS

HAS SUCCESSFULLY COMPLETED GEORGIA INSTITUTE OF TECHNOLOGY'S ONLINE OFFERING OF



### Computational Investing, Part I

This course covers computational aspects of investing, including: Company valuation, the Capital Assets Pricing Model, Efficient Markets Hypothesis, the role of information in pricing, historical data and its manipulation, portfolio performance assessment and optimization.

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TUCKER BALCH, PH.D.  
ASSOCIATE PROFESSOR  
COLLEGE OF COMPUTING  
GEORGIA INSTITUTE OF TECHNOLOGY

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NELSON BAKER, PH.D.  
DEAN, PROFESSIONAL EDUCATION  
GEORGIA INSTITUTE OF TECHNOLOGY

PLEASE NOTE: THE ONLINE OFFERING OF THIS CLASS DOES NOT REFLECT THE ENTIRE CURRICULUM OFFERED TO STUDENTS ENROLLED AT GEORGIA INSTITUTE OF TECHNOLOGY. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT GEORGIA INSTITUTE OF TECHNOLOGY IN ANY WAY. IT DOES NOT CONFER A GEORGIA INSTITUTE OF TECHNOLOGY GRADE; IT DOES NOT CONFER GEORGIA INSTITUTE OF TECHNOLOGY CREDIT; IT DOES NOT CONFER A GEORGIA INSTITUTE OF TECHNOLOGY DEGREE; AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

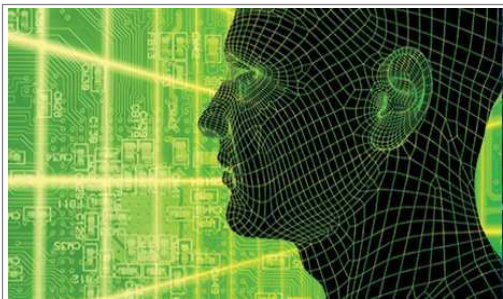


JULY 02, 2015

# Statement of Accomplishment

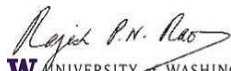
## CHRISTOPHER HARRIS

HAS SUCCESSFULLY COMPLETED THE ONLINE OFFERING OF



### Computational Neuroscience

This advanced undergraduate course introduces a broad range of computational techniques for analyzing, modeling, and understanding the behavior of neurons and networks of neurons in the brain.

  
**W** UNIVERSITY of WASHINGTON

DR. RAJESH P. N. RAO  
PROFESSOR  
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
UNIVERSITY OF WASHINGTON

  
**W** UNIVERSITY of WASHINGTON

DR. ADRIENNE FAIRHALL  
ASSOCIATE PROFESSOR  
DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS  
UNIVERSITY OF WASHINGTON

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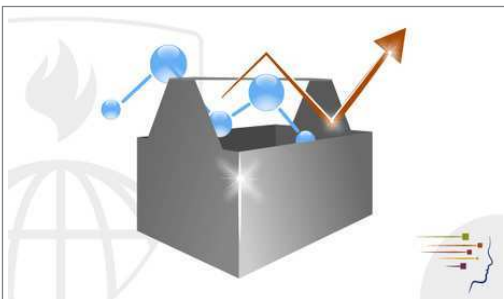
MARCH 08, 2015

# Statement of Accomplishment

WITH DISTINCTION

## CHRISTOPHER HARRIS

HAS SUCCESSFULLY COMPLETED THE JOHNS HOPKINS UNIVERSITY'S OFFERING OF



### The Data Scientist's Toolbox

Overview of the data, questions, & tools that data analysts & scientists work with. It is a conceptual introduction to the ideas behind turning data into knowledge as well as a practical introduction to tools like version control, markdown, git, GitHub, R, and RStudio.

JEFFREY LEEK, PHD  
DEPARTMENT OF BIostatISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH

ROGER D. PENG, PHD  
DEPARTMENT OF BIostatISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH

BRIAN CAFFO, PHD, MS  
DEPARTMENT OF BIostatISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH

PLEASE NOTE: THE ONLINE OFFERING OF THIS CLASS DOES NOT REFLECT THE ENTIRE CURRICULUM OFFERED TO STUDENTS ENROLLED AT THE JOHNS HOPKINS UNIVERSITY. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT THE JOHNS HOPKINS UNIVERSITY IN ANY WAY. IT DOES NOT CONFER A JOHNS HOPKINS UNIVERSITY GRADE; IT DOES NOT CONFER JOHNS HOPKINS UNIVERSITY CREDIT; IT DOES NOT CONFER A JOHNS HOPKINS UNIVERSITY DEGREE; AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

MAY 07, 2015

# Statement of Accomplishment

WITH DISTINCTION

## CHRISTOPHER HARRIS

HAS SUCCESSFULLY COMPLETED



### Programming for Everybody (Python)

The Programming for Everybody (#PR4E) course from the University of Michigan School of Information introduces students to the Python programming language and studies how Python can be used to do data analysis.

A handwritten signature in black ink, appearing to read "Charles", followed by a horizontal line.

CHARLES SEVERANCE  
CLINICAL ASSOCIATE PROFESSOR, SCHOOL OF INFORMATION  
UNIVERSITY OF MICHIGAN

PLEASE NOTE: THE ONLINE OFFERING OF THIS CLASS DOES NOT REFLECT THE ENTIRE CURRICULUM OFFERED TO STUDENTS ENROLLED AT THE UNIVERSITY OF MICHIGAN. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT THE UNIVERSITY OF MICHIGAN IN ANY WAY. IT DOES NOT CONFER A UNIVERSITY OF MICHIGAN GRADE; IT DOES NOT CONFER UNIVERSITY OF MICHIGAN CREDIT; IT DOES NOT CONFER A UNIVERSITY OF MICHIGAN DEGREE; AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

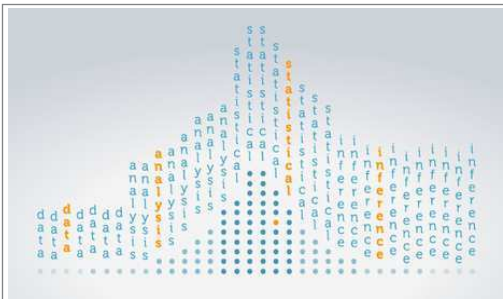
MAY 19, 2015

# Statement of Accomplishment

WITH DISTINCTION

## CHRISTOPHER HARRIS

HAS SUCCESSFULLY COMPLETED AN ONLINE NON-CREDIT COURSE OFFERED BY DUKE UNIVERSITY.



### Data Analysis and Statistical Inference

This course introduces students to core statistical concepts such as exploratory data analysis, statistical inference and modeling, and basic probability, as well as statistical computing.

Handwritten signature of Dr. Mine Çetinkaya-Rundel.

DR. MINE ÇETINKAYA-RUNDEL  
ASSISTANT PROFESSOR OF THE PRACTICE  
STATISTICAL SCIENCE, DUKE UNIVERSITY