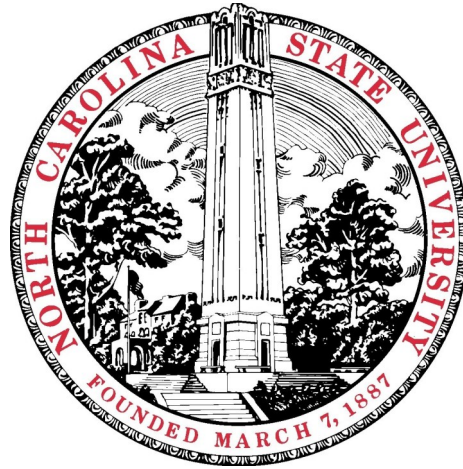


NORTH CAROLINA STATE UNIVERSITY



FALL DIPLOMA CEREMONY

**DEPARTMENT of
COMPUTER SCIENCE**

Wednesday, December 19, 2018

**James T. Valvano Arena at
William Neal Reynolds Coliseum**

7:00 P.M.

GUEST SPEAKER

William G. Pagán



Will is a multi-award-winning patent attorney, a member of the NC State Computer Science Alumni Hall of Fame, and a named inventor on over 130 patent applications; an achievement that earned him the title of Master Inventor over the course of nearly 15 years of developing patentable technologies for IBM in various software/hardware engineering and intellectual property roles. In 2010 in particular, he was named IBM's RTP Inventor of the Year.

Nationally-recognized as a Hispanic Luminary in the STEM disciplines at the Hispanic Engineering National Achievement Awards Conference, Will has significant technical expertise in software, computers, telecommunications, consumer electronics, systems management, and related fields. In addition to his B.S. and M.S. degrees in Computer Science, he graduated Summa Cum Laude from NCCU Law as their Evening Program valedictorian.

Will uses his engineering and business background to represent inventors, developers, and content creators in obtaining, enforcing, and monetizing patent, copyright, and trademark rights. He also helps technology companies understand and navigate the intellectual property rights of others. His experience as a private patent attorney, corporate patent engineer, and hardware/software developer gives him significant insight into the legal, business, and technical sides to patent development, enforcement, valuation, licensing, and transfer objectives.

Will's professional engineering experience includes over a decade in IBM's server development business, leading teams across companies and geographies in the development of software that interfaces with micro-controllers and embedded software in IBM's Intel x86/64 and Power PC-based server architectures. His leadership work on IBM's Intel-based Thurley platforms won him an Outstanding Technical Achievement Award. He also earned a Star Award from the Distributed Management Task Force for his work in developing systems management protocol conformance programs.

Will's leadership throughout his storied legal and engineering careers has also been marked by committed volunteer service and mentorship. One way in which Will serves his community is as the NC Wing Legal Officer of the Civil Air Patrol (CAP), United States Air Force Auxiliary, in which he holds the grade of Captain. For his pro bono service, Will was admitted to the NC Pro Bono Honor Society of 2017.

Will's leadership in the legal and engineering professions has been recognized numerous times over. In 2016 and 2018, Will was recognized by NC Lawyers Weekly as one of their Leaders in the Law; a honor given to only 30 or so attorneys statewide each year. He was also honored in 2018 as one of NCCU's Top 40 Under 40, an honor only given biennially to outstanding alumni for significant contributions in the arts, law, entertainment, healthcare, sciences, the military, education, business, philanthropy, and public service.

COMPUTER SCIENCE DEGREES

Doctor of Philosophy

A Doctor of Philosophy (Ph.D.) is the highest academic degree an individual can earn. In addition to completing coursework specified by the advisory committee (54 or more credits beyond the Master of Science), Ph.D. students must demonstrate breadth of knowledge, pass a series of examinations, and defend a substantial and original scholarly dissertation.

Master of Science

The Master of Science (M.S.) is a traditional research-oriented degree. Master of Science graduates have successfully completed advanced coursework in computer science. Students with thesis titles below their name have written and defended a thesis summarizing their supervised research.

Master of Science in Computer Networking

Master of Science in Computer Networking (MSCN) graduates have successfully completed advanced coursework in computer networking. Students with thesis titles below their name have written and defended a thesis summarizing their supervised research.

Master of Computer Science

The Master of Computer Science (MCS) program is a professional degree program designed primarily to meet the needs of industry. Master of Computer Science graduates have successfully completed advanced coursework in computer science.

Bachelor of Science

The Bachelor of Science (B.S.) degree is conferred upon students who have successfully completed a program of study including both general coursework in the humanities, social sciences, mathematics, and physical sciences as well as specialized courses in computer science.

DOCTOR of PHILOSOPHY

TITUS BARIK

Dissertation: *Error Messages as Rational Reconstructions*

Committee Chair: Emerson Murphy-Hill, Ph.D.

Titus Barik obtained a B.S. degree in Computer Engineering from the Georgia Institute of Technology in 2004. In Atlanta, he spent several years working in industry as a Project Engineer.

Titus moved to Raleigh, NC and returned to academia at NC State in 2010 to pursue a Ph.D. in Computer Science. His dissertation focused on improving error messages in program analysis tools. During his Ph.D. studies, he had research appointments at Google, Microsoft, and ABB.

After completing his Ph.D., Titus moved to Redmond, Washington and is working as a Researcher at Microsoft, where he investigates topics at the intersection of programming languages, human-computer interaction, and software engineering.

DOCTOR of PHILOSOPHY

ADAM ALEXIS AMOS-BINKS

Dissertation: *Intention Revision of Plan-Based Agents for Narrative Generation*

Committee Co-Chairs: David L. Roberts, Ph.D. and R. Michael Young, Ph.D.

Adam Amos-Binks was privileged to have led the Anticipatory Thinking research program at the Laboratory for Analytic Sciences while doing his dissertation. They eventually became one and the same, pushing the program and his research in ways that would not have been possible otherwise. Previously he was a streaming machine learning researcher, where he worked in high performance computing while securing the nation's communication networks.

In 2013, Adam was invited to become a visiting research scholar at the Laboratory for Analytic Sciences, a new government partnership with NC State and industry partners.

In his other lives, Adam worked on Canada's first dial-up internet service and joined a fantastic, but flawed wireless protocol start-up.

DOCTOR of PHILOSOPHY

MICAH BUSHOUSE

Dissertation: *Cloud-ready Hypervisor-based Security*

Committee Chair: Douglas S. Reeves, Ph.D.

Micah Bushouse enrolled in the Computer Science Ph.D. program at NC State in Fall 2015, after receiving a U.S. Army Advanced Civilian Schooling assignment.

Micah joined the Computer Science Department's Wolfpack Security and Privacy Laboratory and focused on the security applications surrounding Virtual Machine Introspection.

During his Ph.D. studies, he interned at the Sandia National Laboratory.

After graduation, Micah returned to the U.S. Army and is currently stationed at Fort Meade, Maryland.

DOCTOR of PHILOSOPHY

LUKE ALEC DESHOTELS

Dissertation: *Automated Evaluation of Access Control in the iPhone Operating System*

Committee Chair: William Enck, Ph.D.

Luke "Alec" Deshotels is the child of Luke and Jonell Deshotels. He grew up in Louisiana where he completed his B.S. and M.S. degrees at the University of Louisiana at Lafayette.

In 2013, Luke moved to North Carolina to begin his Ph.D. in computer security at NC State. Luke worked with Dr. Enck to reverse engineer the iPhone operating system and build tools that make iPhones more secure. Multiple iPhone vulnerability patches have resulted from Luke's research.

As a student, Luke had internships with Qualcomm and Technische Universität Darmstadt.

After defending his dissertation, Luke moved to Silicon Valley and is working for Samsung. Luke is part of the Samsung Knox Security Team where he works to improve the security of Samsung products for enterprise customers.

DOCTOR of PHILOSOPHY

IGNACIO XAVIER DOMÍNGUEZ

Dissertation: *Influencing Behavior Unobtrusively in Virtual Gaming Environments*

Committee Chair: David L. Roberts, Ph.D.

Ignacio Domínguez was born and raised in Caracas, Venezuela, where he earned his B.S. degree in Informatics Engineering at Universidad Católica Andrés Bello. After working at UCAB as a Web Developer for a few years, Ignacio came to NC State to pursue advanced degrees in Computer Science, first earning his M.S. degree and ultimately a Ph.D.

Ignacio was a member of the CIIGAR Lab and served in multiple capacities in the Senior Design Center of the Computer Science Department at NC State. His work on videogame player behavior modeling has been published in top-tier academic conferences and has been covered by high-profile gaming media.

During his Ph.D. studies, Ignacio also took the time to improve his teaching skills, earning the "Certificate of Accomplishment in Teaching" and the "Preparing the Professoriate" Fellowship. His teaching effectiveness has earned him awards both at the departmental level as well as campus-wide.

DOCTOR of PHILOSOPHY

MARKUS EGER

Dissertation: *Intentional Agents for Doxastic Games*

Committee Chair: Chris Martens, Ph.D.

Markus Eger was born and grew up in Austria, where he got his B.S. and M.S. degrees in Computer Science from Graz University of Technology. As part of his undergraduate degree he also studied at Lund University in Sweden for one year.

In 2013, Markus moved to Raleigh, NC to pursue a Ph.D. in Computer Science at NC State. His research interests lie in Artificial Intelligence, and one of his main hobbies is board games, so he combined the two for his dissertation, and worked on AI agents that can play communication games with human players.

As part of his research Markus published several papers on AI in games, implemented two games that people could play online, and received the Award for Outstanding Graduate Research from the Computer Science Department. He also got a sword from his advisor, which says: Narsil essenya, macil meletya; Telchar carnéron Návarottesse.

Markus' future looks bright and warm, for he will move to Costa Rica to work as an invited Professor at the University of Costa Rica, where he plans to continue his work on AI in games.

DOCTOR of PHILOSOPHY

WEI FU

Dissertation: *Simpler Software Analytics: When? When Not?*

Committee Chair: Timothy Menzies, Ph.D.

Dr. Wei Fu was born and raised in Dandong, China.

Before coming to NC State, he obtained a B.S. degree in Electrical Engineering from Nanjing Tech University in 2009 and a M.S. degree in Electrical Engineering from Beijing University of Posts and Telecommunications in 2012.

In 2013, Dr. Fu moved to Raleigh to start his Ph.D. studies in Computer Science at NC State. His dissertation focused on developing simpler techniques for software analytics. During his Ph.D. studies, he had published about 10 papers with his advisor and colleagues at top conferences and journals in the Software Engineering field.

After successfully defending his dissertation, Dr. Fu moved to Palo Alto, California and started his career at Landing AI, which is a startup transforming enterprises with artificial intelligence, founded by the AI pioneer Andrew Ng in 2017.

At Landing AI, Dr. Fu is the founding member of the machine learning research team, and his job is to apply the state-of-the-art machine learning and deep learning techniques to improve the company's AI solution.

DOCTOR of PHILOSOPHY

NEHA GHOLKAR

Dissertation: *On the Management of Power Constraints for High Performance Systems*

Committee Chair: Frank Mueller, Ph.D.

Neha Gholkar was born and raised in Mumbai, India, where she earned a Bachelor of Engineering degree in Information Technology from the University of Mumbai.

Neha moved to Raleigh, NC in 2011 to pursue a M.S. degree in Computer Science at NC State.

Her doctoral dissertation proposed power management systems for improving performance of power-constrained supercomputing and high performance computing systems.

During her Ph.D. studies, Neha had research appointments at Lawrence Livermore National Laboratory. She was also a year-round Intern at Intel Corporation.

After successfully defending her dissertation, Neha joined Intel Corporation as a CPU Architect. She is part of the architecture team that designs architectures for the future generation of server processors.

DOCTOR of PHILOSOPHY

CHIN-JUNG HSU

Dissertation: *Data-Driven Performance Optimization in the Cloud*

Committee Chair: Vincent W. Freeh, Ph.D.

Chin-Jung Hsu was born in Kinmen, a small island of Taiwan.

Chin-Jung enrolled in the Computer Science Ph.D. program at NC State in Fall 2011. His dissertation focused on using data-driven approaches to optimize application and system performance in the cloud. His advisor was Dr. Vincent Freeh.

During his Ph.D. studies, he worked as a Research Intern at NetApp and AT&T Labs Research. He had published papers in several great conference venues.

After successfully defending his dissertation, Chin-Jung moved to the Bay area and is working for Amobee, a company which focuses on big data.

DOCTOR of PHILOSOPHY

CHEN LIN

Dissertation: *The Many Faces of Septic Shock: A General Framework for Disease Prediction using Generated Visualizations*

Committee Chair: Min Chi, Ph.D.

Chen Lin was born and raised in Hangzhou, China.

In 2013 she moved to Raleigh, NC to attend NC State, earning a Ph.D. in Computer Science. Her dissertation focused on building a general framework that further improves Long Short Term Memory (LSTM) to predict a life-threatening health condition, septic shock, and visualizes its stages.

During her Ph.D. studies, Chen was a research assistant in the Center of Educational Informatics at NC State where she implemented an innovative application of the Input Output Hidden Markov Model in student modeling for Intelligent Tutoring Systems. She also interned at Atlassian as a Data Scientist, and at Christiana Care Health System and IBM Research as a research staff member.

After successfully defending her dissertation, Chen moved to New York and is working for IBM as a research staff member. She is part of the Cognitive Service Team and is working on building a cloud migration platform.

DOCTOR of PHILOSOPHY

XING PAN

Dissertation: *Providing DRAM Predictability for Real-Time Systems and Beyond*

Committee Chair: Frank Mueller, Ph.D.

Xing Pan was born in Tianjin, China.

He received his B.S. and M.S. degrees in Electronic Engineering from Nankai University.

Xing attended NC State in the Computer Science Department beginning in 2013, receiving his Ph.D. in 2018.

He is currently working for Baidu in the autonomous driving division in China.

DOCTOR of PHILOSOPHY

ZHONGXIU AURORA PEDDYCORD-LIU

Dissertation: *Game Learning Analytics and Qualitative Methods for Actionable Change in a Curriculum-Integrated Educational Math Game*

Committee Chair: Tiffany Barnes, Ph.D.

Aurora was born in 1993 in Shenyang, China, a very cold city which contributed to her decision of pursuing a Ph.D. in the south.

She moved to the U.S. in 2010 to study Math at Worcester Polytechnic Institute, but ended up falling in love with Computer Science. In 2014, she joined Dr. Barnes' lab in the Computer Science Department at NC State.

The highlights of Aurora's career are winning the best student paper nominee at the international conferences on artificial intelligence in education and educational data mining, and also the outstanding research award from the Computer Science Department at NC State.

In Aurora's graduate school life, she also found a husband, Barry, a cat, Cinnamon Bun, and two Chihuahuas, Cocoa Bean and Eclair Puff. She has traveled to 15 countries and is proud of her art museums' postcard collection. She calls herself a reinforcement algorithm who loves being adventurous and going out of her comfort zone. She loves traveling, fashion, painting, and of course, Barry. She also fancies herself as the lady detective, Phryne Fisher.

Aurora interned at IBM Watson and SAS, and she will be working at SAS in the future.

DOCTOR of PHILOSOPHY

ASHWIN SHASHIDHARAN

Dissertation: *A High-Performance Geospatial Architecture for Geosimulations*

Committee Chair: Raju Vatsavai, Ph.D.

Ashwin Shashidharan was born in Kannur, Kerala, a state on the southwestern, Malabar Coast of India. He grew up in the city of Hyderabad, India, where he completed his secondary and senior secondary level education.

Ashwin initially considered pursuing a B.S. degree in Electrical Engineering but decided to study Computer Science and Engineering, as it appealed to his passion for developing software.

After receiving his B.S. degree from Vellore Institute of Technology (VIT) in India, he joined NC State to pursue his graduate studies in Computer Science.

It was his strong desire to pursue research that motivated him to join the Ph.D. program at NC State. In his dissertation, he focused on developing computational techniques to address the challenges of spatial scale, spatial resolution, and user-interactivity, while using high-resolution geographic data in large-scale geosimulations. During his Ph.D. studies, he also interned at Qualcomm and Environmental Systems Research Institute (Esri).

After successfully defending his dissertation, Ashwin moved to Redlands, California and is working for Esri. At Esri, he is now part of the Geoanalytics team where he works on improving speed-up performance and scaling geospatial analytics on big spatiotemporal data.

DOCTOR of PHILOSOPHY

CHRISTOPHER RICHARD THEISEN

Dissertation: *Risk-Based Attack Surface Approximation*

Committee Chair: Laurie Williams, Ph.D.

Christopher Theisen was advised by Dr. Laurie Williams. His research interests included developing metrics for measurable security, finding more effective techniques for distributing security knowledge, and developing security norms to describe user behavior.

After graduation, Chris joined Microsoft as a Security Program Manager, working with Office product and engineering teams to deliver secure software and services.

DOCTOR of PHILOSOPHY

PENGCHENG WANG

Dissertation: *Deep Reinforcement Learning for Interactive Narrative Planning*

Committee Chair: James C. Lester, Ph.D.

Pengcheng Wang enrolled in the Computer Science Ph.D. program at NC State in 2013. Advised by Dr. James Lester, he studied interactive narrative adaptation and personalization in educational games. He proposed a data-driven player simulation model, as well as a deep reinforcement learning-based game content adaptation method.

His research has gained broad interest in the fields of interactive narrative generation and AI in education. Multiple top-tier AI conference papers have been published based on his research results. In the IntelliMedia group at NC State, he contributed to the development and design of multiple educational games, including Inspire and Future Worlds.

After successfully defending his dissertation, Pengcheng joined Microsoft at Redmond, Washington as a Data Scientist. He is part of the Windows Shell team focusing on providing more personalized and more stable operation systems using data-driven methods.

DOCTOR of PHILOSOPHY

MINGYANG XU

Dissertation: *Probabilistic Models for Aspect-based Opinion Mining*

Committee Chair: Nagiza Samatova, Ph.D.

Mingyang Xu enrolled in the Computer Science Ph.D. program at NC State in Fall 2014. His dissertation focused on how to use probabilistic models to extract important aspects and opinions from a large amount of unstructured text data. His advisor was Dr. Nagiza Samatova.

During his Ph.D. studies, he worked as a machine learning engineer Intern at Amadeus IT group during the Summer of 2017. He was also the teaching assistant in multiple courses and research assistant in multiple projects. Given the rich academic environment of NC State, he published several research papers in primary conferences.

After finishing his Ph.D. studies, he is working as an NLP Scientist at UnitedHealth Group. He has been mainly responsible for building systems for extracting diagnosis from large amounts of clinical documents and building machine learning components for clinical documents segmentation and classification.

DOCTOR of PHILOSOPHY

XIAO YU

Dissertation: *Understanding and Debugging Complex Software Systems: A Data-Driven Perspective*

Committee Chair: Guoliang Jin, Ph.D.

Xiao Yu was born and raised in Shanghai, China. He attended East China Normal University from 2004 to 2011, during which he earned a B.S. degree in Software Engineering, and a M.S. degree in Software and Theory.

In 2011, he enrolled in the Computer Science Ph.D. program at NC State. His dissertation focused on developing data-driven techniques for understanding and debugging complex software systems and applications.

During his Ph.D. studies, Xiao interned at Microsoft Research Asia in the Summer of 2012, and NEC Laboratories America in the Summer and Fall of 2014. He also visited the U.S. Food and Drug Administration in the Summer of 2013, and the University of Illinois at Urbana-Champaign in the Fall of 2013 and Spring of 2014. These experiences granted him opportunities to explore real-world research problems, and ultimately led him to the success of his Ph.D. studies.

After successfully defending his dissertation, Xiao is working as a Researcher in the Computer Security Department at NEC Laboratories America. He is now working on next generation technologies that enhance malware and vulnerability analysis and system security.

DOCTOR of PHILOSOPHY

YUE ZHAO

Dissertation: *Lowering Knowledge Barriers for HPC: From Representations to Infrastructures and Acquisitions*

Committee Chair: Xipeng Shen, Ph.D.

Yue Zhao was born in Shanxi, China.

He earned his B.S. degree in Information Engineering from the Shanghai Jiao Tong University.

In Fall 2013, he began his Ph.D. studies under the supervision of Dr. Xipeng Shen. His research mainly resided in the intersection of the high-performance computing domain and machine learning techniques. During his Ph.D. studies, he collaborated with the Lawrence Livermore National Laboratory (LLNL), resulting in several high-quality research papers.

After finishing his Ph.D., he joined Facebook as a Research Scientist. His focus is on the efficient AI system for the virtual reality (VR) techniques.

MASTER of SCIENCE

THESIS

Debosmita Das

Time Series Analysis and Visualization: Detection and Forecasting of the Abnormal Changes in Data

Chair: Christopher G. Healey, Ph.D.

Shubham Goyal

Exploring Sanctions in Cybersecurity Compliance

Chair: Munindar Singh, Ph.D.

Yang Ho

Graph Characteristics and Branch and Reduce Algorithms for Minimum Vertex Cover

Chair: Matthias Stallmann, Ph.D.

Randall Benjamin Pittman

Exploring Flexible Communications for Streamlining DNN Ensemble Training Pipelines

Chair: Xipeng Shen, Ph.D.

Pritesh Ranjan

Robust Geographic Routing Protocol for Inter Drone Communication

Chair: Rudra Dutta, Ph.D.

Rachit Shrivastava

Building a Large Display Interface for Manual Labeling and Classification in Machine Learning Training

Chair: Benjamin Watson, Ph.D.

MASTER of SCIENCE

NON-THESIS

Nirav Ajmeri
Jianfeng Chen
Sarah Elder
Lingnan Gao
Shaoliang Nie
Isaac Polinsky

**MASTER of SCIENCE in
COMPUTER NETWORKING**

NON-THESIS

Sanchita Agarwal
Surbhi Bansal
Prateek Malik
Madhuvanti Ramasami
Abhinav Sharma

MASTER of COMPUTER SCIENCE

Rachit Agarwal
Kashish Aggarwal
Aayushi Agrawal
Pavneet Singh Anand
Shenee Ashara
Manjusha Trilochan Awasthi
Nayana Bangalore Chandrashekar
Uddhav Bhosle
Kanchan Bisht
Khantil Choksi
Abhinandan Deshpande
Santhosh Dharmagadi
Anjali Doneria
Erick Draayer
Anshul Fadnavis
Varun Garg
Joseph Giallo
Sayali Godbole
Deepak Gupta
Dipansha Gupta
Sandeep Hegde
Chao Huang

Pavithra Iyer
Abhash Jain
Akshay Jain
Ankitkumar Jain
Chirag Jain
Nirav Jain
Priyanka Jain
Jithin John
Ragavi Kalaignani
Sai Sri Harsha Kanamanapalli
Bhanu Sreekar Reddy Karumuri
Yash Katariya
Shubhankar Reddy Katta
Mohammad Zaheen Khan
Gauraang Khurana
Rahul Sunny Kummithi
Xindi Li
Joseph Ly
Junhua Ma
Harika Malapaka
Ryan Mee
Saraswati Mishra

MASTER of COMPUTER SCIENCE

(continued)

Dipanjan Nag
Rohit Naik
Tam Nguyen
Kumar Nielarshi
Stefan O'Neil
Rebecca Virginia Poole Palmer
Bhavik Patel
Darshan Patel
Deepak Ravindra Patil
Ankith Divakar Raja
Madhumitha Raveendar
Tushita Roychaudhury
Jagadeesh Saravanan
Samantha Scoggins
Siddhant Jyotin Shah
Chengcheng Shao
Pratik Singh
Chakshu Singla
Pranshu Sinha

Neeharika Sompalli
Surabhi Sudame
Aishwarya Sundararajan
Zachary Chase Taylor
Sri Sai Bhargav Tiruveedhula
Amulya Varote
Ajay Venkatakrisnan
Shivani Vyas
Dongyu Wang
Longrong Wang
Qiaodan Wang
Adam Craig Weber
Na Wen
Stephen Worley
Chang Yan
Huimin Yang
Shreyas Zagade
Zhangqi Zha
Gang Zhang

BACHELOR of SCIENCE

Degree Conferred June 22, 2018

Daniel Weldon Deans
Nathan Christopher Jones
Hanyu Luo **
Jacob David Malter
Jonathan Michael Phipps
Jiaman Wu ***

Degree Conferred July 31, 2018

Ryan Anthony Ayers
Melissa Kay Novitsky *** @ ~
Adam James Schofield
Stuart Allen Wells ***

Degree Conferred December 19, 2018

Mitchell Wayne Adair
Daxit Agarwal *
Mohammed Mahmood Ahmed *
Elizabeth Aldama Alberto **
Zackary Robert Allen **
Kaylee Jean Andrews **
Apeksha Awasthi * @ ~
Ruben Andres Barahona Shadid ***
Kevin Andrew Bartushak *** Γ
Matthew Barton Bennison ***
Zewdu Getahun Beshah
Nicholas Daniel Board *
Gayle C. Bussell **
Andrew J. Castellucci *
Xingchao Cheng
Ashley Nicole Cook **
Sophia Marie Davis
Connor S. Dennis *
Christian Noel Drotor ***

Anastasia Egorova * @ ~
Rafael Ignacio Esteller ***
Cameron Ross Estroff **
Jacob A. Ferrero ***
Ian G. Gatland *
William J. Glas ***
Connor James Hall ***
Brandon Christopher Hawkins *
Jane Hiltz * Γ
Jacob Hooper **
William Kendall James ** Γ
Samuel Isaac Jessee Γ
Daniel Karamitrov ***
Joshua Kayani *** @
Allen John Keimig **
Hakeem R. King
Jacob K. Lantz
Hayden V. Lawrence *** +
Tam Hoai Le ***
Aaron Ezekiel Leatherman *
Kaiwen Li
Nicholas Chase Luther
Jared Allen MacLean *
Christopher Thomas Maynard ***
Samuel Carey McMurray *
Matthew L. Meeks *
Jesse Dale Miller
Lucas Mark Molander **
Jesse Scott Morgan *
Brian Chase Morris ***
Megan O'Connor * +
Jacob Overton
Duncan M. Page *** +
Kunj Maheshbhai Patel ***

BACHELOR of SCIENCE

(continued)

Justin Eric Patzer *** Γ	Grady Stewart **
Alexander E. Peck ***	Amy Suh ***
Alexander Richard Phelps ***	Joesph Kendall Tew
Marc Ian Quaintance *	Adish Thapa
Austin T. Quarles * Γ	Carolyn M. Thompson + @
Xin Rao *	Caeman Toombs *
Alec Robert Rohloff ***	Carol Ann Walker
Bryce Matthew Rolles ***	Tyler Henry Walsh
Paige Rubendall	Qingyan Wang
John Paul Sarle	Joshua David Watson
Daniel Frank Schaffer ** +	Jack E. Wingo
Robert F. Seligson ** Γ	Raymond James Woods **
Azra Mohammedsalim Shaikh **	Ellen Sophie Worthy *
Jesse L. Simpson	George Ger Yang **
Lakshmi Sridhar ***	

Bachelor of Science with Honors

- *** - Summa cum laude (with highest honor), 3.75—4.0 GPA, gold sash.
- ** - Magna cum laude (with high honor), 3.5 – 3.74 GPA, silver sash.
- * - Cum laude (with honor), 3.25 – 3.499 GPA, white sash.
- Γ - Bachelor of Science in CSC with Game Development Concentration.
- + - Co-majors (students graduating with one or more degrees outside of Computer Science).
- @ - Computer Science Student Ambassador.
- ~ - Computer Science Marshal.

Computer Science Honors Program

Recipients of the Bachelor of Science in Computer Science with Honors have maintained a minimum GPA of 3.5 while completing a challenging program of computer science undergraduate study, including an honors thesis with a supervising professor.

Daxit Agarwal

Silent Movie at iPearl Immersion Theater

Honors Advisor: Arnav Jhala, Ph.D.

Zackary Robert Allen

Towards a Full Starcraft 2 Agent

Honors Advisor: Arnav Jhala, Ph.D.

Apeksha Awasthi

Evaluating Group Collaboration on Tests and Projects

Honors Advisor: Lina Battestilli, Ph.D.

Kevin Andrew Bartushak

A Predictive Model of Emotion Using Video Analysis of Live Theater

Honors Advisor: Arnav Jhala, Ph.D.

Matthew Barton Bennison

Distributed Security Architecture: Collaborative Botnet Detection

Honors Advisor: Rudra Dutta, Ph.D.

Jane Hiltz

General Video Game AI Learning from Video

Honors Advisor: Arnav Jhala, Ph.D.

Matthew L. Meeks

Rendering the Universally Accessible Graph Sketching Tool, GSK, in C#

Honors Advisor: Suzanne Balik, Ph.D.

University Scholars Program

The University Scholars Program encourages students to excel academically in their majors while receiving a B.S. degree. The program requires individuals to complete a minimum of 21 hours of honors coursework while maintaining a "B" average, and graduating with an overall GPA of at least a 3.25.

Matthew Barton Bennison
Gayle C. Bussell
Rafael Ignacio Esteller
Connor James Hall
Joshua Kayani
Tam Hoai Le

Samuel Carey McMurray
Melissa Kay Novitsky
Daniel Frank Schaffer
Robert F. Seligson
Amy Suh
Stuart Allen Wells

Valedictorians (4.0 GPA)

Ruben Andres Barahona Shadid
Kevin Andrew Bartushak
Jacob A. Ferrero
Connor James Hall
Hayden V. Lawrence

Tam Hoai Le
Duncan M. Page
Alexander E. Peck
Alec Robert Rohloff
Jiaman Wu

Marshals

Bryan Gonzalez, *senior*
Matthew Gray, *senior*
Jimmy Long, *junior*
Malik Majette, *senior*

Neill Robson, *junior*
Lauren Siegel, *junior*
Meghana Subramaniam, *senior*
Courtney Weglar, *senior*

COMPUTER SCIENCE FACULTY

Barbara J. Adams, Ph.D.
Kemafor Anyanwu Ogan, Ph.D.
Dennis R. Bahler, Ph.D.
Suzanne Balik, Ph.D.
Tiffany Barnes, Ph.D.
Tzvetelina Battestilli, Ph.D.
Donald L. Bitzer, Ph.D.
Franc Brglez, Ph.D.
Min Chi, Ph.D.
Rada Y. Chirkova, Ph.D.
Jon Doyle, Ph.D.
Patrick Dreher, Ph.D., M.B.A.
Rudra Dutta, Ph.D.
William Enck, Ph.D.
Vincent W. Freeh, Ph.D.
Edward F. Gehringer, Ph.D.
Xiaohui (Helen) Gu, Ph.D.
Khaled Harfoush, Ph.D.
Christopher G. Healey, Ph.D.
Steffen Heber, Ph.D.
Sarah S. Heckman, Ph.D.
Margaret R. Heil, M.S.
Jamie A. Jennings, Ph.D.
Arnav Jhala, Ph.D.
Guoliang Jin, Ph.D.
Alexandros Kapravelos, Ph.D.
Jason King, Ph.D.
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PHOTOGRAPHY / VIDEO

Photo Specialties, a professional photographer, will take each graduate's picture as they are handed the diploma. A free color proof will be sent to each graduate's current mailing address, including a password for online viewing. There is no obligation to purchase prints. To receive email notification when photos are online, please visit www.photospecialties.com to pre-register. If a proof is not received within a week of the ceremony, please contact info@photospecialties.com or call 1-800-722-7033.

For the benefit of relatives and friends who may not be able to attend the event in person, we are pleased to announce that the event will be available online via **live video streaming at <http://go.ncsu.edu/csc-diploma>**. Firefox, Internet Explorer, and Safari are recommended for viewing the live streaming of the ceremony.

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**Our sponsors join us in congratulating the
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