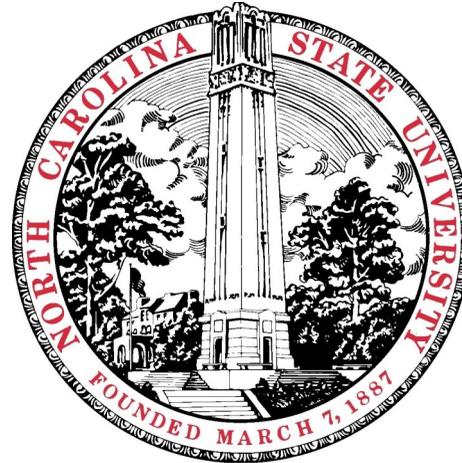# NORTH CAROLINA
STATE UNIVERSITY

SPRING DIPLOMA CEREMONY

DEPARTMENT of
COMPUTER SCIENCE

Thursday, May 5, 2022

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

8:00 A.M.

Welcome

Welcome to the Spring diploma ceremony of the Department of Computer Science at North Carolina State University, Raleigh. The department was formed in 1967 and is one of the oldest in the nation. The department currently has over 2,160 students. We are among the top in the nation in the number of awarded bachelor's, master's, and doctoral degrees in computer science, and we lead in both teaching and research accomplishments. We continue our tradition of excellence by proudly honoring a new group of graduates.

The ceremony today recognizes the academic achievements of the Spring 2022 graduating students receiving bachelor's, master's, or doctoral degrees in the field of computer science. It is a very special, auspicious, and exciting day for all of us -- students, their families and friends, and our faculty and staff, that culminates years of hard work and dedication for all concerned. Students graduating today bring the number of our alumni to over 10,300.

On behalf of the faculty and staff, I would like to thank you for coming, and to extend our warmest congratulations to the students, their families, and their friends.

With best wishes,

Gregg Rothermel
Department Head

SPRING DIPLOMA CEREMONY
James T. Valvano Arena at William Neal Reynolds Coliseum
Thursday, May 5, 2022
8:00 A.M.

Pre-Processional Comments………..……………………………………………………Ken Tate
Director of Engagement and External Relations

Processional………………………………………………………..Pomp and Circumstance
Sir Edward Elgar

Welcome………………………………………………………………….Gregg Rothermel, Ph.D.
Department Head

Speaker ……………………………………………………………………….. Beth Smith
General Manager, WW Technical Sales and Customer Success
IBM Technology

Introduction of Honor Students…………………………….Barbara Jasmine Adams, Ph.D.
Director of Undergraduate Advising

Student Speaker………………………………………………………….. Brooke Raschke

Presentation of Degrees …………………………………………….George Rouskas, Ph.D.
Director of Graduate Programs

Sarah Heckman, Ph.D.
Director of Undergraduate Programs

Gregg Rothermel, Ph.D.
Department Head

Recessional………………………………………………………….Triumphal March From Aida
Giuseppe Verdi

GUEST SPEAKER
Beth Smith, General Manager
WW Technical Sales and Customer Success, IBM Technology

Beth Smith is a Technology Executive that has been on the forefront of the development, scale, and advancement of software technologies. Over a distinguished 35-year career at IBM, she has ushered in new technologies in the industry ranging from SOA, database management, analytics, and artificial intelligence. Beth's passion for technology took root in 1987 with her first role as a programmer in Cary, NC.

Currently, as the General Manager of Worldwide Technical Sales and Customer Success at IBM, Beth leads over 8,000 technical specialists globally, enabling clients to innovate and achieve competitive advantage for their businesses.

Beth has held several executive roles within IBM, including General Manager of IBM Watson AI, where she led the global software product business. In that role, she was featured in news media and analysts reports discussing the relevance of Artificial Intelligence in today's business world and the importance of Ethics of AI.

Beth's unique differentiation is her ability to connect deeply with clients, across many countries and industries, while personally having the technology depth to guide product and engineering teams. With this superpower, Beth has personally orchestrated several multi-billion-dollar IBM software technology businesses throughout her career.

Beth is also dedicated to developing others. She has advocated, mentored and sponsored several women and minorities in engineering to attain higher heights in the technology industry. She is a believer and a "doer" in bringing others along on the journey.

Beth also gives back to the community by serving on the Board of Directors for Charity Navigator, the largest and most-utilized evaluator of charities in the U.S.

Beth is a proud graduate of NC State (BS CSC '87), and she was inducted into the NC State CSC Alumni Hall of Fame in 2020.

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

MAHNAZ BEHROOZI

Dissertation: *Toward Non-discriminatory Technical Interviews in Software Engineering*

Committee Chair: Christopher Parnin, Ph.D.

Mahnaz Behroozi was born and raised in Shiraz, Iran. She learned how to play chess when she was ten years old and earned several medals in Chess Championship Tournaments. Being curious to find out more on how chess playing computer games worked (e.g., Chessmaster), she obtained a B.S. in Computer Science & Engineering and a M.S. in Artificial Intelligence from Shiraz University in 2014. She then worked as a Data Scientist for two years and applied her knowledge to solve real-world problems, mainly in the health sector at central hospitals in Shiraz (e.g., projects on Parkinson's Disease detection from voice samples).

In 2016, Mahnaz moved to Raleigh, NC to pursue a Ph.D. in Computer Science at NC State. Her Ph.D. research focused on studying cognitive aspects of technical interviews in Software Engineering. Mahnaz has many research interests in the intersection of applied Machine Learning, Human-Computer Interaction, and Software Engineering.

Upon completing her Ph.D., she joined IBM as a Marketing Data Scientist.

In her free time, Mahnaz enjoys cooking, walking, travelling, and leather crafting.

DOCTOR of PHILOSOPHY

JOYMALLYA CHAKRABORTY

Dissertation: *Deciphering ML Software Fairness*

Committee Chair: Timothy Menzies, Ph.D.

Joymallya Chakraborty is a recent Ph.D. graduate from NC State under the supervision of Dr. Tim Menzies. Before coming to NC State, he was a full-stack software developer at TCG Digital. He obtained his B.S. degree in Computer Science from Jadavpur University. He moved to Raleigh, NC in 2017 to pursue his Ph.D. in Computer Science at NC State, while working with the RAISE research group.

Joymallya's research interests include algorithmic bias, ML model optimization, interpretability & explanation of black-box ML models. He was very fortunate to publish several papers in highly acclaimed software engineering venues. His biggest academic success was winning the ACM SIGSOFT Distinguished Paper Award for his ESEC/FSE 2021 paper "Bias in Machine Learning Software: Why? How? What to do?".

Besides academics, he used to like spending his summers doing industrial internships. He has done research internships at Intel Corp. (Bellevue, WA), IBM T.J. Watson Research Labs (Yorktown Heights, NY), and Amazon (Seattle, WA). Upon completing his Ph.D., he will be joining Amazon as a Senior Applied Scientist.

In his free time, he likes reading books, traveling, watching movies, biking, hiking, and fishing. He is a regular visitor to the Carmichael Gymnasium. After spending five years in Raleigh, he is excited to move to the west coast and get accustomed to the industrial work-life balance. To know more about him, please visit his website at: https://joymallyac.github.io/

DOCTOR of PHILOSOPHY

ANDREW EMERSON

Dissertation: *Multimodal Learning Analytics for Predictive
Student Modeling in Game-Based Learning*

Committee Chair: James Lester, Ph.D.

Andrew Emerson received his B.S. degree in Computer Science and Mathematics from Furman University in 2017. He then moved to Raleigh, NC to pursue his Ph.D. in Computer Science at NC State to work with the IntelliMedia research group under the supervision of Dr. James Lester.

His dissertation research focused on multimodal learning analytics for predictive student modeling in game-based learning. During his doctoral research, he published and assisted with the preparation of over 20 papers, including publications at prestigious venues and journals such as the AAAI Conference on Artificial Intelligence and the British Journal for Educational Technology.

Upon completing his Ph.D., he joined Educational Testing Service as an AI/ML Engineer, where he will continue to conduct research and build educational technology using multimodal AI.

He is a lifelong NC State sports fan, loves to lift weights, read books, visit breweries, spend time outside, and travel with is fiancée, Hazel.

DOCTOR of PHILOSOPHY

NATHAN HENDERSON

Dissertation: *Deep Learning-Based Multimodal Affect Recognition for Adaptive Learning Environments*

Committee Chair: James Lester, Ph.D.

Nathan Henderson received his B.S. degree in Electrical and Computer Engineering from Auburn University in 2016. He then received his M.S. degree in Computer Science from The University of Alabama in Huntsville in 2017. Subsequently, he moved to Raleigh, NC in 2018 to pursue his Ph.D. in Computer Science at NC State, working with the IntelliMedia Group under the supervision of Dr. James Lester.

His doctoral research at NC State primarily focused on deep learning techniques for student modelling, including affective computing, multimodal interaction, natural language processing, and learning outcome prediction. His work has received several "Best Paper" award nominations and was awarded "Best Student Paper" at the 2020 International Conference on Educational Data Mining.

Upon completing his Ph.D., he joined Radiance Technologies in Huntsville, AL as an AI Research Scientist, where he is continuing his research on deep learning within various projects revolving around graph-based language modeling, computer vision, and inductive logic programming.

In his free time, he enjoys watching Auburn and NC State athletics, playing different sports, and rock climbing.

DOCTOR of PHILOSOPHY

HARSH KHETAWAT

Dissertation: *Managing Extreme Heterogeneity in Next Generation HPC Systems*

Committee Chair: Frank Mueller, Ph.D.

Harsh received his B.E. degree in Computer Science and Engineering from Manipal Institute of Technology in 2013. He moved to Raleigh, NC in 2015 to pursue his M.S. and Ph.D. degrees in Computer Science at NC State, working with Dr. Frank Mueller.

His research focuses on optimal utilization of heterogeneous resources in HPC systems.   In recognition of his work, he has received multiple best paper awards at IEEE Cluster and ISC.

Upon completing his Ph.D., he joined Nutanix as a member of the technical staff working in the disaster recovery group.

In his free time, he likes reading books, hiking, and working on personal projects.

DOCTOR of PHILOSOPHY

TAE HYUN KIM

Dissertation: *Advanced Authentication and Authorization Protocol for IoT Networks*

Committee Chair: Douglas Reeves, Ph.D.

Tae Jyun Kim received his B.S. degree in Computer Science and Engineering from Korea Army Academy at Yeongcheon, South Korea in 2003. After graduation, he worked as a System Development Officer at the Korean Army Computer Center. He then received his M.S. degree in Computer Science from Auburn University in Alabama in 2008.

He returned to Korea and completed various duties as a Cyber Officer for many years. He moved to Raleigh, NC in 2015 to pursue his Ph.D. in Computer Science from NC State, working with Dr. Doug Reeves and the WSPR research group.

His research focuses on developing advanced authentication and authorization protocol for various IoT network environments and researching DNS/DNSSEC security issues. In recognition of his work, his paper was published in IEEE GLOBECOM 2021, in Madrid, Spain.

Upon completing his Ph.D., he returned to Korea and is now working as a Cyber R&D Officer in the Army Cyber Operation Center, South Korea.

DOCTOR of PHILOSOPHY

GEORGE MATHEW

Dissertation: *Cross-Language Code Similarity and Applications in Clone Detection and Code Search*

Committee Chair: Kathryn Stolee, Ph.D.

George Mathew was born and raised in Hyderabad, India. He received his B.E. in Electronics and Instrumentation Engineering from Amrita Vishwa Vidyapeetham, Coimbatore in 2012. For the next two years, he worked for Payoda Technologies and VDP IT Technologies.

In June 2014, George enrolled in the M.S. program in Computer Science at NC State, receiving his M.S. degree in 2016, under the supervision of Dr. Tim Menzies, while also being funded by the NASA Jet Propulsion Laboratory.

George then enrolled in the Ph.D. program in Computer Science at NC State, where his research interests included software effort estimation, optimizing requirements engineering models and developing measures to identify similar code across programming languages.

Upon completing his Ph.D., George will be joining Facebook as a Research Scientist in New York.

DOCTOR of PHILOSOPHY

SHRIKANTH NARAYANASWAMY CHANDRASEKARAN

Dissertation: *Taming Confusions in Software Engineering*

Committee Chair: Timothy Menzies, Ph.D.

Shrikanth Narayanaswamy Chandrasekaran was born in Tamil Nadu, India in 1986. In 2008 he received his B.S. degree in Electronics and Communication Engineering from Saveetha Engineering College (affiliated with Anna University, India). Then he worked in the software industry for nine years. Specifically, he played a lead Technology R&D Specialist at Accenture Labs. Before that, he was a Software Engineer and Senior Systems Engineer at ABB India Ltd and Infosys Ltd.

Shrikanth holds two Java programming certifications from Sun Microsystems, published papers at the IEEE/ACM International Conference on Software Engineering, and Empirical Software Engineering Journals, and holds three granted patents.

From 2018 to 2021, Shrikanth worked in the RAISE lab under the supervision of Dr. Tim Menzies at NC State. His primary research interest lies in identifying shortcuts to software analytics through investigating software engineering theories. He was a research intern at Fujitsu Labs and Microsoft USA in the summers of 2020 and 2021.

Upon completing his Ph.D., he joined Oracle America, Inc. as a Senior Member of Technical Staff working on improving the software development experience for the Oracle cloud platform.

DOCTOR of PHILOSOPHY

ONKAR PATIL

Dissertation: *Assessing the Performance of and Devising Optimization Strategies for Heterogeneous Memory under HPC Workloads*

Committee Chair: Frank Mueller, Ph.D.

Onkar Patil was born and raised in Mumbai, India. He received his B.S. degree in 2012 from Mumbai University in Information Technology. He then moved to Raleigh, NC in 2012 to pursue his M.S. degree in Computer Science from NC State. After completing his M.S. in 2014, he joined NetApp Inc. as a member of the Technical Staff.

After completing a short internship at HPE Labs in Palo Alto, CA, he moved back to Raleigh in 2016 to pursue his Ph.D. in Computer Science from NC State. His research focused on heterogeneous memory architectures and high performance computing.

Upon completing his Ph.D., Onkar moved to San Jose, CA, where he is now a Research Staff member at IBM, Almaden Campus.

Besides doing systems research, Onkar enjoys interacting and collatorating with other students, traveling, playing music, soccer and cooking.

DOCTOR of PHILOSOPHY

RUI SHU

Dissertation: *Graph Analytics on Modern Graph Processing Systems*

Committee Chair: Timothy Menzies, Ph.D.

Rui Shu received his B.S. in Software Engineering from Beijing Jiaotong University in China in 2014. He moved to Raleigh, NC in 2014 to pursue his Ph.D. in Computer at NC State. He worked in the DANCE research lab with Dr. Helen Gu, and then he joined the RAISE research lab in 2008 and worked with Dr. Timothy Menzies.

His research focuses on software engineering, machine learning, and security. His work includes applying search-based software engineering methods to improve machine learning performance in various security tasks. He has published and co-authored ten research papers in top-tier conferences and journals during his Ph.D. study.

Upon completing his Ph.D., he joined a startup company in San Francisco as a Software Engineer working on providing AI solutions for e-commerce.

In his free time, he enjoys his life by traveling, reading, music, and video games.

DOCTOR of PHILOSOPHY

HUYQUANG TU

Dissertation: *Reducing Effort of Labelling Software Engineering Data with Semi-Supervised Learning*

Committee Chair: Timothy Menzies, Ph.D.

Huyquang Tu was born and raised in Ho Chi Minh City, Vietnam. He received his Mathematics Secondary Education degree during his undergraduate work in the USA. However, he got inspired by the practical applicability aspect of Mathematics, which led him to begin pursuing his Ph.D. in Computer Science at NC State in 2018.

Huyquang has worked in the RAISE lab, under the supervision of Dr. Tim Menzies, where his primary research interest was in reducing human efforts to acquire necessary data for software analytics. He was a Research Intern at Pinterest and Amazon during the summers of 2019 and 2020. He was a Machine Learning Engineer Intern at Facebook in the summer of 2021.

Upon completing his Ph.D., he will join Facebook, now known as Meta Inc., as a Research Scientist, where his primary research interests lie in the collaboration of human and machine learning algorithms that lead to better performance and higher efficiency.

DOCTOR of PHILOSOPHY

TIANPEI XIA

Dissertation: *Assessing the Health Status of Open-Source Software Project*

Committee Chair: Timothy Menzies, Ph.D.

Tianpei Xia received his B.S. degree in Electrical and Electronic Engineering from Nanjing University of Posts and Telecommunica–tions in 2013. Then he earned his M.S. degree in Computer Science from The University of Texas at Dallas in 2015. He moved to Raleigh, NC in 2016 to pursue is Ph.D. in Computer Science at NC State, working with Dr. Tim Menzies' RAISE research group.

His research focuses on using data mining and artificial intelligence methods to solve real-world problems in the software engineering field, such as exploring new techniques in search-based optimization to improve the performance of current SE predicting tasks (such as effort estimation, text mining, and software health).

Upon completing his Ph.D., he began working as a backend Software Engineer at a promising tech startup named NewsBreak. He uses the knowledge he learned from the RAISE lab in his current tasks, including multiple parameter optimizing strategies and project health monitoring techniques.

In his free time, he likes cooking, traveling, and watching sports.

MASTER of SCIENCE
THESIS

Jesse Wood
Latent Skill Mining and Labeling from Courseware Content to Enable Adaptive Online Learning
Chair: Noboru Matsuda, Ph.D.

Chongxin Zhong
BinGo: Pinpointing Concurrency Bugs in Go via Binary Analysis
Chair: Xu Liu, Ph.D.

MASTER of SCIENCE
NON-THESIS

Fahmid Morshed Fahid
John Wesley Hostetter
Shaown Sarker

MASTER of COMPUTER SCIENCE

Bhavya Omprakash Agrawal
Sneha Vijay Aradhey
Jordan Isaiah Argueta
Krishna Prasanna Bhamidipati
Pragna Bollam
Rachana Sri Bollineni
Samuel Lemen Brougher
Steven Craig Cravath
Mithil Dave
Nicholas Ryan Garner
Geoffrey Garrido
Patrick Freeman Girard
Reed Stevenson Raphael Grimm
Himanshu Gupta
Shubham Gupta
Robert Hickman
Hosung Hwang
FNU Jayaty
Steven Gregory Jones
Abhishek Joshi
Yen-An Jou
Harsh Mansukhlal Kachhadia
Parth Kanakiya
Justin Kirschner
Gokul Krishna Koganti
Meghana Nayak Kota
Austin Clarke Lalicker
Matthew S. Leonard
Junyan Li
Xiaochen Li
Yi Li
Zhuolin Li
Joseph Michael Lutz

Sakthi Rajan Murugan
Unnati Prema Naga Nadupalli
Jake Bennett Nowokunski
Nirav Kamleshkumar Patel
Tirth Dhirenkumar Patel
Ruth Perry
Andrew William Pippin
Nathan Leif Potvin
Radoslaw Rudelko
Yi Qiu
Courtney Ripoll
Vignesh Kumar Sabesan
Karan Rajiv Shah
Raj Ketanbhai Shah
Ankur Sharma
Priya Sharma
Yiting Shen
Krishika Mahesh Shivnani
Lee Shyu
Apurva Sandeep Sonavane
Michal Stepien
Peeyush Taneja
Eshwar Chandra Vidhyasagar Thedla
Laxmi Aishwarya Thela
Sruthi Vandhana Thirunavukkarasu
Emily Tracey
Kiran Teja Tummuri
Keertana Vellanki
Arpitha Vijayakumar
Nolan Wagoner
Mitchell Garrett Young
Hao Zhang
Weixiong Zhang

BACHELOR of SCIENCE

Michael Adamik **
Isabella Rose Adriano ***Σ
Lucile Ann Agamaite ***
Alexander Aksland **
Mouad Alajdi
Oren Amato *
Sean Timothy Andersen ***
Kayleigh Andres **Γ
Jesse Anning Yoshihara ***
Devon Michael Asmus **
Akshay Banda **
Michael Ross Barger **
Thomas John Batchelder
Alexander Todd Battistoni *σ
Thoma Bayol-Wyatt **
Sagnik Bhattacharjee *
Aanish Girish Bhirud Γ
August Neil Boge **
William Michael Boyles ***+
Jacob Ryan Bream ***
Ashley Elizabeth Brown **Σ@~
Anthony James Bulthuis ***
Christopher Alexander Burnette ***
Philip Edward Burney ***
William Patrick Carpenter ***Γ
Brian Damitrias Carrington
David Lemuel Libed Celemen *
Sanjana Cheerla **
Matheus Cheim ***
Selena Chen **
Xuanyi Chen ***
David Paul Chilton
Anthony Christopi Cline ***
Dylan Carter Crooks *
Timothy Blaise Czerniejewski *σ
Gavin Gerard Dacier **+
Joseph Davidson **Γ
Quentin Davidson Γ
Sebastián De La Torre **
Samuel R. Deangelis Σ
Aliadam Deeb ***
Kraig Francis Denny

Akshat Dixit +
Stephen Donovan **
Savan Doshi ***@
Vedant Shridhar Dulori *
Amelia Eason ***
Nainika Reddy Elety ***
John Gregory Fagan, Jr. ***
Jared Michael Faulk
Benjamin Brian Floyd ***+
Benjamin Davis Frady ***
Gage Fringer ***
Carli M. Genzel **
Nicolas Bay Goodnight **
Amulya Gorti ***
Rahil A. Goyal **
Melody Victoria Griesen ***
Bryce Thomas Gunter *
Logan Haas **
Logan Alan Harger **
William Maddry Harrell ***
Joshua Chase Helton **
Brenner Hicks ***
Austin Russell Hidden
Andrew Paul Hintermeister *
John Logan Davis Hobbs ***Γ
Henry Germain Hollyday Γ
Hunter James Hovanec *Γ
Zackary Huggins **
Caleb Reece Hughes
Andrew Ray Hughlett *
Ryan David Hurlbut *
Jeremy Craig Ignatowitz **
Kiran Asher Jacob ***
Tanmay Jain **
Paul Michael James *
Corbin Austin Jones ***Σ
Jeremy Ryan Jump **
Arman Karshenas *
Sahil Krishna Karuturi
Collin Andrew Kersten *Σ
Parker Lee Hart Killian ***Σ
TaeJoon Kim **

BACHELOR of SCIENCE
(continued)

Yujin Kim σ
Soleil Tiger Kim-Shapiro ***
Samuel Jeremiah Klotz **
Natalie Anna Kraft ***+
Mikail Joseph Krochta ***
Abhinav Kulhari *
Evan Lafontaine ***@
Bimal Lamdari
Pascal Le ***@
James Malcolm Leeder ***
Marcus Lerro *
Yixin Li ***
Nikolas Scrofani Lord ***
Boxiang Ma *
Saivarun Reddy Maale *
Sean Casey Maina *
Kyle Laurence Roberto Manahan
Matthew Keith Martin ***
Sarah R. Martin **
Sara Sophia Masood
Gianna Marie Mastrandrea ***
Tyler Cole Maxwell *
Emerald Wood McGehee **
Robert Fraser McGrath **
Matthew Adam McLaughlin ***
Ryan Pierce Mertz ***
Maxwell Mohrman σ
Amr Khalil Moussa ***
Matthew William Murdoch ***
Lauren Elizabeth Murillo **
Kyle Dionides Murley ***
Joshua Myers **
Yeong Nam
Shubhankar Naru
Eli Samuel Newman **
Derek H. Nguyen **
Hiep Nguyen
Vy Le Thao Nguyen ***
Sri Reeha Nidamarty ***
Opeyemi Olaoluwa *
Justin Matthew Orringer **+
Noah Christopher Page Γ

Jay K. Patel ***
Neel Vitty Patel
Parin Patel
Yash Jayesh Patel ***
Alexandra Nicole Pavao ***σ
Aaron Robert Penny ***
Vinhson Michael Phan ***+
Tyler Poindexter *
Steven William Polglase II ***
William Ashton Pope *
Kenneth John Port ***
Wesley Fletcher Pretsch **σ
Vitus Putra ***@
Ashrita Ramaswamy ***
Brooke Marie Raschke ***@~
Rohak Rastogi **+
Rohan Ur Rehman
Madilyn Marie Rhoney **@
Ryan Nicolaus Rice *
Robert Steven Rivenbark ***
Jacob Louis Robinson *Γ
Joshua Blake Roddy
Andrew Thomas Salter *
Isabella Samuelsson ***
Andrew Sauerbrei **
Matthew Joseph Schiff σ
Adam Daniel Schneider **Σ
Kasimir R. Schulz **
Nicolas William Paul Seay ***
Thomas Franco Selem Salazar *
Udayan Senapati *Γ
Ria Shah *
Charlee Catherine Sherrill *
Gavin Shirey ***Γ
Manali Navin Shirsekar **@~
Ethan Gray Shumate **σ
Garrett Daniel Simco ***
Ethan Heiskell Smith Γ
Jacob Christopher Smith
Alexander Viktor Snezhko ***
Andrew Bryan Sonnier **
Mason Thomas Stevens ***+

BACHELOR of SCIENCE
(continued)

Emma Elizabeth Stone ***
Nathan Alexander Stout **
Daylee Stratford **
Nathan C. Sudduth *Γ
Brian Suh ***
John Francis Sullivan **+
Colin Szatkowski *
Jackson Payne Taylor
Ethan Reed Thompson Σ
Nicholas Alexander Thompson *
Cameron Neil Tilley **σ
Christopher Anthony Tong ***σ
Alex Traing ***Σ
Jack Michael Trudan ***σ
Ayushi Verma ***

Austin Villee *
Christopher William Wagner ***
Justin Wald ***
Stephen Yuan Wang ***Γ
Luke Robert Westervelt **
Jay Robert Whitaker *σ
Caleb Michael Wiebe **
Travis Ryan Wilcox ***Σ
Anthony Wu ***
Tyrone Wu ***
Yizhuo Wu *
JingPing Xie
Zhonghe Yao *
Joshua Tyler Yates **σ
Siqi Yu **

Bachelor of Science Special Notations Key

*** - 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.
Σ - Bachelor of Science in CSC with Cybersecurity Concentration.
+ - Co-majors (graduating with one or more degrees outside of CSC).
σ - Bachelor of Science in CSC with Security Track.
@ - Computer Science Student Ambassador.
~ - Diploma Ceremony Marshal.

UNDERGRADUATE AWARDS

Computer Science Senior Award for Scholarly Achievement
Sarah R. Martin
Ashrita Ramaswamy

Computer Science Senior Award for Citizenship and Service
Ryan Catalfu

Computer Science Senior Award for Humanities
Natalie Anna Kraft

Computer Science Senior Award for Leadership
Parker Lee Hart Killian

CSC Department Faculty Senior Scholar
Kasimir R. Schulz

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.

William Boyles
Advancements in "Lights Out"
Honors Advisor: Donald Sheehy, Ph.D.

Savan Doshi
What Makes a Good Gradebook?
Honors Advisor: Tiffany Barnes, Ph.D.

Melody Griesen
Supporting Left-Recursion in a Parsing Expression Grammar
Honors Advisor: Jamie Jennings, Ph.D.

Derek Nguyen
Google Stadia Research
Honors Advisor: Muhammad Shahzad, Ph.D.

Ashrita Ramaswamy
Positive Proactive Feedback System—iSnap
Honors Advisor: Tiffany Barnes, Ph.D.

Rohak Rastogi
Prototyping an Educational Programming Game
Honors Advisor: Thomas Price, Ph.D.

Alexander Snezhko
Data Mining for Plagiarism Detection in Online Exams
Honors Advisor: Edward Gehringer, Ph.D.

Emma Stone
Planner Short Report
Honors Advisor: Tiffany Barnes, Ph.D.

Park Scholars

A four year scholarship covering tuition, fees, board, books, supplies, travel, and personal expenses.

Natalie Anna Kraft
Ethan Gray Shumate

Benjamin Franklin Scholar

The Benjamin Franklin Scholars program allows students to simultaneously pursue bachelor's degrees in both engineering and the humanities or social sciences. The program provides students with broad training and equips them with unique skills to solve complex problems.

Gavin Gerard Dacier
Akshat Dixit
Andrew Bryan Sonnier

CyberCorps®: Scholarship for Service

The CyberCorps®: Scholarship for Service program is a two-year scholarship that covers tuition, fees, supplies, and provides a stipend. Students are expected to complete cybersecurity-focused coursework. For each year of scholarship, students must complete one year of employment in the federal, state, local, or tribal government agency. The Scholarship for Service is funded by the National Science Foundation Grant #1946607.

Isabella Rose Adriano
Corbin Austin Jones
Parker Lee Hart Killian

University Honors Program

In order to be recognized as a University Honors Program graduate, students must complete a minimum of 12 credits of honors seminars, complete a six-credit "Capstone Experience", and maintain a cumulative GPA of 3.25 or higher.

Michael Ross Barger
William Michael Boyles
Gavin Gerard Dacier
Benjamin Brian Floyd
Corbin Austin Jones
Evan Lafontaine
Ashrita Ramaswamy
Rohak Rastogi
Mason Thomas Stevens

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.

Natalie Anna Kraft
Matthew Keith Martin
Brooke Marie Raschke
Madilyn Marie Rhoney
Manali Navin Shirsekar

COMPUTER SCIENCE FACULTY

Barbara Jasmine Adams, Ph.D.
Bita Akram, Ph.D.
Kemafor Anyanwu Ogan, Ph.D.
Suzanne Balik, Ph.D.
Tiffany Barnes, Ph.D.
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David Wright, Ph.D.

MARSHALS

Austin Daugherty, *senior*
Claire Davis, *senior*
Myles Gregor, *sophomore*
Olivia Martin, *senior*
Molly Sun, *senior*
Nicole Worth, *senior*

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.

The Department of Computer Science thanks

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and staff of the department.

Our sponsors join us in congratulating the
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