DWAYNE CHRISTIAN BROWN, JR. ("CHRIS")
ASSISTANT PROFESSOR | DEPARTMENT OF COMPUTER SCIENCE | VIRGINIA TECH

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EDUCATION

North Carolina State University — 2015 - 2021
Ph.D. in Computer Science
Dissertation: *Digital Nudges for Encouraging Developer Actions*
Advised by Dr. Chris Parnin

North Carolina State University — 2015 - 2017
M.S. in Computer Science

Duke University — 2009 - 2013
B.S. in Computer Science, with Distinction
Minor in African and African American Studies

ADDITIONAL EDUCATION

North Carolina State University — 2019 - 2021
Teaching and Communication Graduate Certificate

EMPLOYMENT HISTORY

Virginia Polytechnic Institute and State University (Virginia Tech) — Blacksburg, VA
Assistant Professor, Fall 2021 - present

North Carolina State University (NC State) — Raleigh, NC
Research Assistant, Fall 2016 - Spring 2021
Teaching Assistant, Fall 2015 - Spring 2016

Red Hat — Raleigh, NC
Quality Engineering Intern, Summers 2017 and 2018

Blackbaud — Charleston, SC
Software Quality Engineer Intern, Summer 2016

Bank of America — Charlotte, NC
Python Developer, July 2013 - July 2015

PUBLICATIONS

My name is in bold, underlined names are students directly supervised by me. A publication list is also available on Google Scholar.

Journal Publications

[J3] Kashumi Madampe and John Grundy and Judith Good and Dulaji Hidellaarachchi and Jácome Cunha and **Chris Brown** and Peng Kuang and Reham Al Tamime and Ariful Islam Anik and Advait Sarkar and Wei Zhou and <u>Shawal Khalid</u> and Tommaso Turchi and Shavindra Wickramathilaka and Yue Jiang. *Addressing the Agony of Recruitment for Human-centric Computing Studies.* ACM Special Interest Group on Software Engineering (SIGSOFT) Software Engineering Notes. https://doi.org/10.1145/3721890.3721898

[J2] Sonja Hyrynnerlmi, Sebastian Baltes, **Chris Brown**, Rafael Prikladnicki, Gema Rodrguez-Prez, Jocelyn Simmonds, Bianca Trinkenreich, Yi Wang, and Grischa Liebel. *Making Software Development More Diverse and Inclusive: Key Themes, Challenges, and Future Directions.* ACM Transactions on Software Engineering and Methodology (TOSEM), Special Issue: "A 2030 Roadmap for Software Engineering". [https://doi.org/10.1145/3711904]

[J1] Peipei Wang, **Chris Brown**, Jamie A. Jennings, Kathryn T. Stolee. *Demystifying Regular Expression Bugs: A comprehensive study on regular expression bug causes, fixes, and testing.* Empirical Software Engineering (EMSE 2022). [`https://doi.org/10.1007/s10664-021-10033-1`]

Conference Publications

[C35] Taufiq Daryanto, Sophia Stil, Xiaohan Ding, Daniel Manesh, Sang Won Lee, Tim Lee, Stephanie Lunn, Sarah Rodriguez, **Chris Brown** and Eugenia Rho. *Designing Conversational AI to Support Think-Aloud Practice in Technical Interview Preparation for CS Students.* IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025). [31% acceptance rate].

[C34] Minhyuk Ko, Omer Ahmed, Yoseph Berhanu Alebachew, **Chris Brown**. *AutoPrint: Judging the Effectiveness of An Automatic Print Statement Debugging Tool.* IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025). [*short paper*, 37% acceptance rate]

[C33] Huayu Liang, Syeda Afia Hossain, and **Chris Brown**. *Understanding User and Developer Perceptions of Dark Patterns in Online Environments.* IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025). [*short paper*, 37% acceptance rate]

[C32] Minhyuk Ko, Mohammed Seyam, and **Chris Brown**. *Programmers Without Borders: Bridging Cultures in Computer Science Study Abroad Program.* IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2025). [*short paper*, 37% acceptance rate]

[C31] **Chris Brown**, Jason Cusati. *Exploring the Evidence-Based Beliefs of LLM-Based Programming Assistants.* ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM) Emerging Results and Vision track. [30% acceptance rate]

[C30] Xiaoxiao Gan, **Chris Brown**. *Exploring the Impact of Integrating UI Testing in CI/CD Workflows on GitHub.* International Conference on Mining Software Repositories (MSR) Registered Report track. `https://arxiv.org/pdf/2504.19335`

[C29] Tianjia Wang, Matthew Trimble, **Chris Brown**. *DevCoach: Supporting Students Learning the Software Development Life Cycle with a Generative AI powered Multi-Agent System.* Foundations of Software Engineering Software Engineering Education Track (FSE SEET 2025). [37% acceptance rate] `https://doi.org/10.1145/3696630.3727255`

[C28] Brian Bell, Teresa Thomas, Sang Won Lee, **Chris Brown**. *How do Software Engineering Candidates Prepare for Technical Interviews?.* Foundations of Software Engineering Software Engineering Education Track (FSE SEET 2025). [37% acceptance rate] `https://doi.org/10.1145/3696630.3727245`

[C27] Yoseph Berhanu Alebachew, Minhyuk Ko, **Chris Brown**. *Are We on the Same Page? Examining Developer Perception Alignment in Open Source Code Reviews.* International Conference on Evaluation and Assessment in Software Engineering (EASE 2025). [27% acceptance rate]

[C26] Dibyendu Brinto Bose, Travis Chan, Matthew Trimble, **Chris Brown**. *"AutoPyDep: A Recommendation System for Python Dependency Management Utilizing Graph-Based Analytics"*. Foundations of Software Engineering (FSE 2025) Tool Demonstration track. `https://doi.org/10.1145/3696630.3728576`

[C25] Swanand Vaishampayan, Hunter Leary, Yoseph Berhanu Alebachew, Louis Hickman, Brent Stevenor, Fletcher Wimbush, Weston Beck, **Chris Brown**. *Human and LLM-Based Resume Matching: An Observational Study.* Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL 2025). [15% acceptance rate] `https://aclanthology.org/2025.findings-naacl.270/`

[C24] Swanand Vaishampayan, **Chris Brown**. *Will You Trust Me More Than ChatGPT? Evaluating LLM-Generated Code Feedback for Mock Technical Interviews.* International Conference on Co-

operative and Human Aspects of Software Engineering (CHASE 2025). [27% acceptance rate] https://doi.org/10.1109/CHASE66643.2025.00018

[C23] <u>Xiaoxiao Gan</u>, <u>Huayu Liang</u>, **Chris Brown**. *Challenges, Strategies, and Impacts: A Qualitative Study on UI Testing in CI/CD Processes from GitHub Developers Perspectives.* International Conference on Software Testing, Verification and Validation (ICST 2025). https://doi.org/10.1109/ICST62969.2025.10988972

[C22] Ebtesam Al Haque, **Chris Brown**, Thomas D. LaToza, Brittany Johnson. *Towards Decoding Developer Cognition in the Age of AI Assistants.* IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2025) Registered Report track. https://arxiv.org/pdf/2501.02684

[C21] <u>Swanand Vaishampayan</u>, Muhammad Ali Gulzar, **Chris Brown**. *Improving Evidence-Based Tech Hiring with GitHub-Supported Resume Matching.* IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2025). [23% acceptance rate] https://doi.org/10.1109/SANER64311.2025.00081

[C20] <u>Tianjia Wang</u>, Tong Wu, Huayi Li, **Chris Brown**, Yan Chen. *Generative Co-Learners: Enhancing Cognitive and Social Presence of Students in Asynchronous Learning with Generative AI.* ACM International Conference on Supporting Group Work (GROUP 2024). https://doi.org/10.1145/3701198

[C19] <u>Lucas Franke</u>, <u>Huayu Liang</u>, <u>Sahar Farzanehpour</u>, Aaron Brantly, James C. Davis, **Chris Brown**. *An Exploratory Mixed-methods Study on General Data Protection Regulation (GDPR) Compliance in Open-Source Software.* International Symposium on Empirical Software Engineering and Measurement. (ESEM 2024) [20% acceptance rate] https://doi.org/10.1145/3674805.3686692

[C18] <u>Arpit Thool</u>, **Chris Brown**. *Harnessing the Power of LLMs to Simplify Security: LLM Summarization for Human-Centric DAST Reports.* Visual Languages and Human-Centric Computing (VL/HCC 2024). [*short paper*] https://doi.org/10.1109/VL/HCC60511.2024.00014

[C17] <u>Shawal Khalid</u>, <u>Huayu Liang</u>, **Chris Brown**. *Exploring User Perceptions of Crypto Signals: An Empirical Study From Social Media Posts.* International Conference on Blockchain (Blockchain 2024). 10.1109/Blockchain62396.2024.00071

[C16] <u>Tianjia Wang</u>, Ramaraja Ramanujan, Yi Lu, Chenyu Mao, Yan Chen, **Chris Brown**. *DevCoach: Supporting Students in Learning the Software Development Life Cycle at Scale with Generative Agents.* Learning at Scale, Work in Progress (L@S WIP 2024). [*short paper*] https://dl.acm.org/doi/10.1145/3657604.3664663

[C15] <u>Sean Gruber</u>, <u>Grace Govan</u>, **Chris Brown**. *Exploring Disparities in Student and Practitioner Perceptions of Skill Proficiency with SE Gap Awareness.* Learning at Scale, Work in Progress (L@S WIP 2024). [*short paper*] https://doi.org/10.1145/3657604.3664684

[C14] <u>Dibyendu Brinto Bose</u>, Brendan David-John, **Chris Brown**. *Optimizing AR Application Testing: Integrating Metamorphic Testing to Address Developer and End-User Challenges.* International Conference on Human-Computer Interaction (HCI International 2024) Late Breaking Work [*extended abstract*] https://doi.org/10.1007/978-3-031-76812-5_2

[C13] Sabaat Haroon, **Chris Brown**, Muhammad Ali Gulzar. *DeSQL: Interactive Debugging of SQL in Data-Intensive Scalable Computing.* ACM International Conference on the Foundations of Software Engineering (FSE 2024). https://doi.org/10.1145/3643761

[C12] <u>Shawal Khalid</u>, **Chris Brown**. *Software Engineering Approaches Adopted by Blockchain Developers.* International Workshop on Blockchain Applications and Theory (BAT 2023). https://doi.org/10.1109/SDS59856.2023.10329007

[C11] <u>Tianjia Wang</u>, Daniel Vargas Diaz, **Chris Brown**, Yan Chen. *Towards Adapting Computer Science Courses to AI Assistants' Capabilities.* Visual Languages and Human-Centric Computing (VL/HCC 2023). [29% acceptance rate] `https://doi.org/10.1109/VL-HCC57772.2023.00018`

[C10] <u>Minhyuk Ko</u>, <u>Dibyendu Brinto Bose</u>, Hemayet Ahmed Chowdhury, Mohammed Seyam, **Chris Brown**. *Exploring the Barriers and Factors that Influence Debugger Usage for Students.* Visual Languages and Human-Centric Computing (VL/HCC 2023). [*short paper*, 29% acceptance rate] `https://doi.org/10.1109/VL-HCC57772.2023.00027`
🏆 Best Short Paper, Honorable Mention 🏆

[C9] <u>Swanand Vaishampayan</u>, <u>Sahar Farzanehpour</u>, **Chris Brown**. *Procedural Justice and Fairness in Automated Resume Parsers for Tech Hiring: Insights from Candidate Perspectives.* Visual Languages and Human-Centric Computing (VL/HCC 2023). [*short paper*, 29% acceptance rate] `https://doi.org/10.1109/VL-HCC57772.2023.00019`

[C8] Mahnaz Behroozi, Chris Parnin, **Chris Brown**. *Asynchronous Technical Interviews: Reducing the Effect of Supervised Think-Aloud on Communication Ability.* Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2022). [22% acceptance] `https://doi.org/10.1145/3540250.3549168`
🏆 Distinguished Paper Award 🏆

[C7] **Chris Brown**, Chris Parnin. *Comparing Different Developer Behavior Recommendation Styles.* International Conference on Cooperative and Human Aspects of Software Engineering (CHASE 2021). `https://doi.org/10.1145/3387940.3391481`

[C6] **Chris Brown**, Chris Parnin. *Understanding the Impact of GitHub Suggested Changes on Recommendations Between Developers.* Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2020). `https://doi.org/10.1145/3368089.3409722`

[C5] Peipei Wang, **Chris Brown**, Jamie A. Jennings, Kathryn T. Stolee. *An Empirical Study on Regular Expression Bugs.* International Conference on Mining Software Repositories (MSR 2020). `https://doi.org/10.1145/3379597.3387464`

[C4] Peng Sun, **Chris Brown**, Ivan Beschastnikh, Kathryn T. Stolee. *Mining Specifications from Documentation Using a Crowd.* International Conference on Software Analysis, Evolution and Reengineering (SANER 2019). `https://doi.org/10.1109/SANER.2019.8668025`

[C3] **Chris Brown**, Justin Middleton, Esha Sharma, Emerson Murphy-Hill. *How Software Users Recommend Tools to Each Other.* Visual Languages and Human-Centric Computing (VL/HCC 2017). `https://doi.org/10.1109/VLHCC.2017.8103460`

[C2] Justin Smith, **Chris Brown**, Emerson Murphy-Hill. *Flower: Navigating Program Flow in the IDE.* Visual Languages and Human-Centric Computing (VL/HCC 2017). `https://doi.org/10.1109/VLHCC.2017.8103445`

[C1] Susan H. Rodger, **Dwayne Brown**, Michael Hoyle, Daniel MacDonald, Michael Marion, Elizabeth Onstwedder, Bella Onwumbiko, Edwin Ward. *Weaving Computing into all Middle School Disciplines.* Innovation and Technology in Computer Science Education (ITiCSE 2014). `https://doi.org/10.1145/2591708.2591754`

Workshop Publications

[W23] <u>Ryan Wood</u>, **Chris Brown**. *Understanding User Perceptions of Automated Dark Pattern Detection Online.* Designing for Everyone: Advancing User Experience Through Human-Centric Design Methodologies.

[W22] <u>Swanand Vaishampayan</u>, **Chris Brown**. *Do LLM-Generated Resumes Make Me More Qualified?*

An Observational Study of LLMs For Resume Generation and Matching Tasks. Designing for Everyone: Advancing User Experience Through Human-Centric Design Methodologies.

[W21] Minhyuk Ko, Shawal Khalid, **Chris Brown**. *ParticipantGuide: Promoting Transparency in Human-Centric User Studies.* Designing for Everyone: Advancing User Experience Through Human-Centric Design Methodologies.

[W20] Shawal Khalid, **Chris Brown**. *Evaluating Capabilities and Perspectives of Generative AI Tools in Smart Contract Development.* International Symposium on Blockchain and Secure Critical Infrastructure (BSCI).

[W19] Ebtesam Al Haque, **Chris Brown**, Thomas D. LaToza, Brittany Johnson. *The Evolution of Information Seeking in Software Development: Understanding the Role and Impact of AI Assistants.* Workshop on Human-Centered AI for SE (HumanAISE). `https://doi.org/10.1145/3696630.3731665`

[W18] **Chris Brown**, Swanand Vaishampayan. *Towards Evidence-Based Tech Hiring Pipelines.* Software Engineering in 2030 Workshop (SE2030). `https://arxiv.org/abs/2504.06387`

[W17] Dibyendu Brinto Bose. *From Prompts to Properties: Rethinking LLM Code Generation with Property-Based Testing.* International Workshop on Large Language Model-Oriented Empirical Research (LLANMER 2025). `https://doi.org/10.1145/3696630.3728702`

[W16] Sahar Farzanepour, Swetha Rajeev, Huayu Liang, Ritvik Prabhu, and **Chris Brown**. *ResearchBot: Bridging the Gap Between Academic Research and Practical Programming Communities.* International Workshop on Bots in Software Engineering (BotSE 2025). `https://doi.org/10.1109/BotSE67031.2025.00017`

[W15] Shawal Khalid, Huayu Liang, **Chris Brown**. *Decoding the Influence: Analyzing the Impact of Crypto Signals on Software Repositories.* International Workshop on Blockchain Oriented Software Engineering (IWBOSE 2025).

[W14] Dibyendu Brinto Bose, **Chris Brown**. *An Empirical Study on Current Practices and Challenges of Core AR/VR Developers.* International Workshop on Virtual and Augmented Reality Software Engineering (VARSE 2024). `https://doi.org/10.1145/3691621.3694956`

[W13] Shawal Khalid, **Chris Brown**. *Exploring Stakeholder Challenges in Recruitment for Human-Centric Computing Research.* Workshop on Addressing Challenges in Recruiting Participants for Human-Centric Computing Research Studies (VL/HCC Workshop 2024). `https://doi.org/10.1109/VL/HCC60511.2024.00068`

[W12] Yoseph Berhanu Alebachew, **Chris Brown**. *Proposed Experiment on Automatic Bias Detection in Source Code Review.* Annual Workshop of the Psychology of Programming Interest Group (PPIG 2024). `https://www.ppig.org/files/2024-PPIG-35th-alebachew.pdf`

[W11] Sonja Hyrynsalmi, Sebastian Baltes, **Chris Brown**, Rafael Prikladnicki, Gema Rodrguez-Prez, Jocelyn Simmonds, Bianca Trinkenreich, Yi Wang, and Grischa Liebel. *Bridging Gaps, Building Futures: Advancing Software Developer Diversity and Inclusion Through Future-Oriented Research.* Software Engineering in 2030 Workshop (SE2030). `https://arxiv.org/abs/2404.07142v1`

[W10] Arpit Thool, **Chris Brown**. *Securing Agile: Assessing the Impact of Security Activities on Agile Development.* International Workshop on Secure Software: Challenges, Opportunities, and Lessons Learned co-located with the International Conference on Evaluation and Assessment in Software Engineering (Secure Software 2024). `https://dl.acm.org/doi/10.1145/3661167.3661280`

[W9] Shawal Khalid, **Chris Brown**. *Software Engineering Approaches Adopted By Blockchain Developers.* International Workshop on Blockchain Applications and Theory in conjunction with the

International Conference on Software Defined Systems (BAT 2023). `https://doi.org/10.1109/SDS59856.2023.10329007`

[W8] <u>Nivishree Palvannan</u>, **Chris Brown**. *Suggestion Bot: Analyzing the Impact of Automated Suggested Changes on Code Reviews.* International Workshop on Bots in Software Engineering in conjunction with the International Conference on Software Engineering (BotSE 2023). `https://doi.org/10.1109/BotSE59190.2023.00015`

[W7] Md Mahim Anjum Haque, Wasi Uddin Ahmad, Ismini Lourentzou, **Chris Brown**. *FixEval: Execution-based Evaluation of Program Fixes for Programming Problems.* International Workshop on Automated Program Repair in conjunction with the International Conference on Software Engineering (APR 2023).

[W6] **Chris Brown**. *Nudging Developers to Participate in SE Research.* International Workshop on Recruitment Of Participants for Empirical SE Studies in conjunction with the International Conference on Software Engineering (ROPES 2022). `https://ropes-workshops.github.io/ropes22/`

[W5] **Chris Brown**, Chris Parnin. *Dark Patterns for Influencing Developer Behavior.* What Can CHI Do About Dark Patterns? Workshop in conjunction with the ACM Conference on Human Factors in Computing Systems (Dark Patterns 2021). `https://darkpatternsindesign.com/position-papers/`

[W4] **Chris Brown**, Chris Parnin. *Nudging Students Toward Better Software Engineering Behaviors.* International Workshop on Bots in Software Engineering in conjunction with the International Conference on Software Engineering (BotSE 2021). `https://doi.org/10.1109/BotSE52550.2021.00010`

[W3] **Chris Brown**, Chris Parnin. *Sorry to Bother You Again: Developer Recommendation Choice Architectures for Designing Effective Bots.* International Workshop on Bots in Software Engineering in conjunction with the International Conference on Software Engineering (BotSE 2020). `https://doi.org/10.1145/3387940.3391506`

[W2] **Chris Brown**, Chris Parnin. *Sorry to Bother You: Designing Bots for Effective Recommendations.* International Workshop on Bots in Software Engineering in conjunction with the International Conference on Software Engineering (BotSE 2019). `https://doi.org/10.1109/BotSE.2019.00021`

[W1] Susan H. Rodger, Steve Cooper, Wanda Dann, **Dwayne C. Brown**, Jacobo Carrasquel. *Experimenting with and Integrating Alice 2.3 into many disciplines (abstract only).* Special Interest Group on Computer Science Education (SIGCSE 2013). `https://doi.org/10.1145/2445196.2445513`

Lightning Talks and Posters

[P5] <u>Tianjia Wang</u>, **Chris Brown**. "Aligning Software Engineering Education with Generative AI: Insights from Developers, Instructors with Concept Inventory Design". *International Computing Education Research* (ICER 2025). [lightning talk]

[P4] <u>Xiaoxiao Gan</u>, **Chris Brown**. "Designing a Comprehensive and Practical Testing Curriculum for Undergraduate Computer Science Students". *International Computing Education Research* (ICER 2025). [lightning talk]

[P3] <u>Minhyuk Ko</u>, <u>Dibyendu Brinto Bose</u>, Weiu Wang, Mohammed Seyam, **Chris Brown**. "Understanding the Performance of Large Language Model to Generate SQL Queries". *Visual Languages and Human-Centric Computing Posters and Showpieces track* (VL/HCC 2024). `https://doi.org/10.1109/VL/HCC60511.2024.00048`

[P2] <u>Lucas Franke</u>, <u>Huayu Liang</u>, Aaron Brantly, James C. Davis, **Chris Brown**. "A First Look

at the General Data Protection Regulation (GDPR) in Open-Source Software". *International Conference on Software Engineering, Posters track* (ICSE 2024). `https://doi.org/10.1145/3639478.3643077`

[P1] Susan H. Rodger, **Dwayne C. Brown**, Michael Hoyle, Michael Marion. "Integrating Computer Science into Middle School Mathematics". *Special Interest Group on Computer Science Education* (SIGCSE 2013). [poster] `https://doi.org/10.1145/2445196.2445424`

Doctoral Symposia

[DS4] Minhyuk Ko. "Autoprint: An Automatic Print Statement Insertion Tool". *Richard Tapia Celebration of Diversity in Computing Conference Doctoral Consortium* (Tapia 2024).

[DS3] Shawal Khalid. "A Comprehensive Approach to Supporting Blockchain Developers". *Visual Languages and Human-Centric Computing Graduate Consortium* (VL/HCC 2024).

[DS2] Swanand Vaishampayan. "Procedural Justice for Computer Science Hiring: Towards Fair and Equitable AI". *Visual Languages and Human-Centric Computing Graduate Consortium* (VL/HCC 2024).

[DS1] **Chris Brown**. "Nudges for Encouraging Developer Actions". *International Conference on Software Engineering: Companion Proceedings* (ICSE 2019). `https://doi.org/10.1109/ICSE-Companion.2019.00082`

Undergraduate Research Posters

[P12] Javier Ralat. "Ask A Researcher: Transforming Research to Practice." *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2024).

[P11] Syeda Hossain. " Understanding User and Developer Perceptions of Dark Patterns in Software." *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2024).

[P10] Travis Chan. "User Interface Development using CustomTkinter for Automating Python Dependency Recognition." *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2024).

[P9] Yasemin Tanyu, Peiqing Guo, **Chris Brown**. "Modernizing the Academic Journey: A User-Centric Plan of Study Tool for MS and PhD Students in CS". *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2024). 🏆 `2nd Place, Research Division` 🏆

[P8] Matthew Trimble, Dibyendu Brinto Bose, **Chris Brown**. "Python Library Release Predictions". *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2024). *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2024).

[P7] Omer Ahmed, **Chris Brown**. "AI Tools vs Debugging Tools: Exploring User Perceptions on Bug Locating Performance". *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2023).

[P6] Edwin Lewis II, **Chris Brown**. "Postmortems: The Game Development Process". *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2023).

[P5] Colin Roberts, **Chris Brown**. "Enhancing Debugging Efficiency: User Perspectives on AutoPrint, an Automated Print Statement Tool". *Virginia Tech Summer Research Symposium.* Virginia Tech Multicultural Academics Opportunities Program (MAOP 2023). [poster]

[P4] Sahar Farzanehpour, **Chris Brown**, Swanand Vaishampayan. "Automated Resume Parsing: Re-

sume vs. Online Profiles". *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2023).

[P3] <u>Jenna Krebs</u>, **Chris Brown**. "A Study of Exponent and Pramp as Technical Interview Preparation Tools". *Dennis Dean Undergraduate Research and Creative Scholarship Conference*. Virginia Tech, 2023.

[P2] Hennah Nazari, <u>Brian Bell</u>, **Chris Brown**, Sang Won Lee. "Understanding Challenges in Technical-Interview Preparation Process". *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2022).

[P1] <u>Grace Govan</u>, <u>Sean Gruber</u>, **Chris Brown**. "Gaps in Software Engineering Education". *Virginia Tech Undergraduate Research in Computer Science Spring Symposium* (VTURCS 2022).

Other Non-Published Symposia, Conferences, Workshops, and Posters

[O14] <u>Swanand Vaishampayan</u>, **Chris Brown**. "Human and LLM-Based Resume Matching: An Observational Study". *Amazon-Virginia Tech Initiative for Efficient and Robust Machine Learning*. 2024. [poster]

[O13] <u>Dibyendu Brinto Bose</u>, <u>Travis Chan</u>, <u>Matthew Trimble</u>, **Chris Brown**. "AutoPyDep: A Recommendation System for Python Dependency Management Utilizing Graph-Based Analytics". *Amazon-Virginia Tech Initiative for Efficient and Robust Machine Learning*. 2024. [poster]

[O12] <u>Omer Ahmed</u>. "AI Tools vs Debugging Tools: Exploring User Perceptions on Bug Locating Performance". *VANC Alliance Undergraduate Research Symposium*. 2024. Louis Stokes Alliances for Minority Participation (LSAMP) Program, Charlottesville, VA. 🏆 `1st Place` 🏆

[O11] <u>Omer Ahmed</u>. "AI Tools vs Debugging Tools: Exploring User Perceptions on Bug Locating Performance". *Virginia State University Annual Research Conference*. 2024. Virginia State, Petersburg, VA.

[O10] <u>Shawal Khalid</u>. "Unveiling the Potential of Blockchain in Software Engineering and HCI: An Exploratory Reflection". *CHCI Big Ideas Workshop*. Center for Human-Computer Interaction, Virginia Tech, 2024. [lightning talk]

[O9] <u>Shawal Khalid</u>, **Chris Brown**. "Smart Contract Generation: A Comparison Between Generative AI Tools". *ACM Capital Region Celebration of Women in Computing* (CAPWIC 2024). Charlottesville, VA.

[O8] <u>Huayu Liang</u>, **Chris Brown**. "Understanding End User and Software Engineer Perceptions of Dark Patterns". *ACM Capital Region Celebration of Women in Computing* (CAPWIC 2024). Charlottesville, VA.

[O7] <u>Xiaoxiao Gan</u>, **Chris Brown**. "Exploring Challenges of Integrating GUI Testing Framework in CI/CD Workflows on Open Source Repositories". *ACM Capital Region Celebration of Women in Computing* (CAPWIC 2024). Charlottesville, VA. [poster]

[O6] <u>Minhyuk Ko</u>. "AutoPrint: Automatic Print Statement Insertion Tool". *Eastern Atlantic Students in Software Engineering Colloquium* (ESSEC 2024). William & Mary, Williamsburg, VA.

[O5] <u>Shawal Khalid</u>. "Smart Contract Generation: Comparison Between Generative AI Tools". *Eastern Atlantic Students in Software Engineering Colloquium* (ESSEC 2024). William & Mary, Williamsburg, VA.

[O4] <u>Xiaoxiao Gan</u>. "Exploring Challenges of Integrating GUI Testing framework in CI/CD Workflows on Open Source Repositories". *Eastern Atlantic Students in Software Engineering Colloquium* (ESSEC 2024). William & Mary, Williamsburg, VA.

[O3] <u>Omer Ahmed</u>, **Chris Brown**. "AI Tools vs Debugging Tools: Exploring User Perceptions on

Bug Locating Performance". *Dr. Wayne Scales Undergraduate Research and Creative Scholarship Symposium.* Virginia Tech, 2024. 🏆 `2nd Place` 🏆

[O2] Minhyuk Ko. "Automatic Print Statement Insertion Tool". *CHCI Big Ideas Workshop.* Center for Human-Computer Interaction, Virginia Tech, 2023. [lightning talk]

[O1] **Chris Brown**. "Repurposing Software Engineering Faux Pas to Improve Developer Behavior". *CHCI Big Ideas Workshop.* Center for Human-Computer Interaction, Virginia Tech, 2023.

RESEARCH FUNDING TOTAL = $339,673 ($314,173)

I am the primary investigator (PI) unless otherwise specified. My portion is denoted in parentheses.

[G11] **Center for Future Work Places and Practices Summer Seed Grant** $2,000
Investigating the Effects of Explainable AI-Based Resume Matching on Job Seekers
June 30, 2025 – August 31, 2025

[G10] **IEEE Diversity & Inclusion Fund** $5,000
Helping Underrepresented Students Navigate the Tech Hiring Pipeline
February 1, 2025 – May 31, 2025

[G9] **Commonwealth Cyber Initiative (CCI): 2025 Cybersecurity Research** $37,500
Bridging the Gap Between User Interface Security and CI/CD Workflows
July 1, 2024 – June 30, 2025

[G8] **Virginia Tech University Libraries Collaborative Research Grant** $10,000
Promoting Software Engineering Best Practices for Research Software Engineers at VT
· Co-PI: Jonathon Bradley (*University Libraries*), Virginia Tech
July 1, 2024 – May 1, 2025

[G7] **Sloan Foundation** $140,173
Designing and Implementing Automated Solutions to Promote Software Engineering Best Practices in Research Software Development
May 1, 2024 – October 31, 2025

[G6] **National Science Foundation CISE Career Workshop Travel Support** $1,500
April 29-30, 2024

[G5] **CCI: Workforce and Industry Engagement Program** $10,000
Understanding How Software Developers Secure User Interfaces in Rapid Release Environments
May 1, 2024 – August 31, 2024

[G4] **Virginia Tech Institute for Society, Culture and Environment (ISCE)** $7,500
Investigating and Mitigating Bias in AI-Based Automated Resume Parsing Systems
December 1, 2023 – June 30, 2024

[G3] **Virginia Tech Student Engineers' Council Big Contribution Grant (2023)** $8,000

[G2] **CCI: Securing Interactions between Humans and Machines** $60,000 ($58,500)
Understanding the Impact of Data Privacy Regulations on Software and Its Stakeholders
· Co-PI: Aaron Brantly (*Political Science*), Virginia Tech
December 1, 2022 – August 31, 2024

[G1] **Google Award for Inclusion Research (2022)** $60,000 ($36,000)

Supporting Under-Resourced Software Engineering Job Seekers through Facilitating Online Collaboration in Technical Interview Preparation
· Co-PI: Sang Won Lee (*Computer Science*), Virginia Tech

TEACHING

I am the instructor of record unless otherwise specified.

Virginia Tech

CS 6704: Advanced Topics in Software Engineering
Spring 2024

CS 5704: Software Engineering
Spring 2022, Spring 2023

CS 5974: Independent Study
Summer 2022, Spring 2023

CS 4974: Independent Study
Spring 2023, Summer 2023

CS 3704: Intermediate Software Design and Engineering
Fall 2023, Fall 2024, Fall 2025

CS 2974: Independent Study
Spring 2022

NC State

Summer 2020	CSC116: Introduction to Computing - Java*
Spring 2016	CSC216: Java Programming Concepts *(Teaching Assistant)*
Fall 2015	CSC326: Software Engineering *(Teaching Assistant)*

* Virtual due to COVID-19

SERVICE

External Service

Grant Proposal Reviewer

- Commonwealth Cyber Initiative: AI for Cybersecurity / Cybersecurity for AI (2024)
- National Science Foundation: Secure and Trustworthy Cyberspace (SaTC) NSF panel (2024)

Conference/Workshop Organization

- Organizer for International Workshop on Large Language Model-Oriented Empirical Research (LLanMer 2025) at FSE 2025
- VL/HCC: Workshop Co-Chair (VL/HCC 2025)
- FSE: Web Co-Chair (FSE 2024)

Conference Session Chair

- FSE SEET: 2025 [Testing and Platforms]
- LLANMER: 2025 [LLMs for SE]
- VL/HCC: 2023 [Software Demonstrations]
- CHASE: 2022 [Mixed Session]

Program Committee Member

- SANER: 2026 [Early Research Achievement Track]
- VL/HCC: 2025

- LLanMER: 2025
- EASE: 2025 [Short Papers and Emerging Results Track]
- ICSE: 2025
- FSE: 2023 [Tutorials Track]
- SIGCSE: 2023 [Birds of a Feather Track]
- BotSE: 2021, 2022, 2023, 2025
- CHASE: 2022

Conference/Workshop Reviewer

- CHI Late-Breaking Work: 2024
- CHI: 2024
- CSCW: 2024

Journal Reviewer

- EMSE: 2022, 2023, 2023, 2024
- Communications of the ACM: 2024
- TOSEM: 2024
- IEEE Software (*Special Issue on Developing your Software Engineering Career*): 2023
- IEEE Software: 2022
- IEEE Software (*Special Issue Bots in Software Engineering*): 2022
- PeerJ Computer Science: 2021
- TSE: 2021

Internal Service

Department of Computer Science

- Stack@CS center reading group: Fall 2023 - present
- Undergraduate Program Committee: Fall 2022 - present
- Software Engineering PhD Qualifying Exam Committee Chair: 2024
- Software Engineering PhD Qualifying Exam Committee Member: 2022, 2023

Virginia Tech

- Presidential Postdoctoral Fellowship Reviewer: 2023
- Future Faculty Diversity Program (2020 Cohort)

PRESENTATIONS AND TALKS

Invited Meetings

[M2] *International Workshop on Benchmark Infrastructure for LLMs for Code* (BI4LLMC 2025). Invitation-only workshop co-located with FSE, June 26, 2025. Trondheim, Norway.

[M1] *Software Developer Diversity and Inclusion Workshop.* NII Shonan Meeting, June 26-29, 2023. Kanagawa, Japan.

Invited Talks

[T7] *What RSEs Must be Afforded: Better Software through the Right Development Practices and Tools.* Consortium for the Advancement of Scientific Software (CASS) User-Developer Experience Working Group meeting. May 6, 2025. Virtual.

[T6] *Improving Software Engineering Practices and Experiences.* CCI SWVA Annual Meeting. October 16, 2024. Blacksburg, VA.

[T5] CS|Source Business Meeting. September 9, 2024. Blacksburg, VA.

[T4] *How to Recommend Tools for Finding and Fixing Software Errors* or *Overcoming the Unwise*

Monkeys of Tool Adoption. It Will Never Work in Theory (NWiT) session at Strange Loop, September 23, 2022. St. Louis, MO.

[T3] *Sorry to Bother You! Effective OSS Recommendations.* DevConf.US Open Source Community Conference, August 17, 2019. Boston, MA.

[T2] *How to Improve Software Tool Discovery and Usage.* Red Hat QECampX, October 10, 2018. Raleigh, NC.

[T1] *How Software Users Recommend Tools to Each Other.* Laboratory for Analytic Sciences (LAS) Wednesday Research Meeting, November 29, 2017. Raleigh, NC.

Invited Panels

[T3] *VT Academic Jobs Panel.* Virginia Tech CS Grad Council, December 2, 2021. Blacksburg, VA.

[T2] *NC State Career Retreat: Success Stories.* NC State Graduate School Professional Development Team, July 16, 2021. Virtual.

[T1] *Undergraduate Research Conference Panel.* North Carolina Louis Stokes Alliance for Minority Participation (NC-LSAMP) conference. November 11, 2017. Raleigh, NC.

Miscellaneous Presentations

[T7] PhD: Patiently Hoping for a Degree. *Master Your Future Professional Development Workshop.* Center for the Enhancement of Engineering Diversity (CEED), Virginia Tech. September 17, 2024.

[T6] *New Faculty Hire Conversation w/ Chris Brown.* Office of Postdoctoral Affairs, Virginia Tech. August 9, 2023.

[T5] Engineering Undergraduate Research Seminar (ENGR 1014), Virginia Tech. October 28, 2022.

[T4] Faculty Research Presentation. Graduate Student Recruiting Weekend. Virginia Tech. March 18, 2022.

[T3] *Code World, No Blanket.* Graduate Seminar (CS 5944), Virginia Tech. September 10, 2021.

[T2] Meet the Faculty. Graduate Seminar (CS 5944), Virginia Tech. September 3, 2021.

[T1] *Digital Nudges for Encouraging Developer Behaviors.* NC State Three Minute Thesis (3MT) competition, September 24, 2020. Virtual.

HONORS AND AWARDS

CCI Research Showcase 2025, *Commonwealth Cyber Initiative*

Outstanding Mentor Award 2025, *College of Engineering*

Career Champion 2023, *Virginia Tech Career and Professional Development*

Mentor of the Month August 2023, *Virginia Tech Graduate School*

Graduate Alumni Advising Award 2023, *Virginia Tech Graduate School* [nominated, did not receive]

Best Paper Awards VL/HCC 2023 [honorable mention], FSE 2022

ADVISING

PhD Students

Yoseph Berhanu	Fall 2023 - present
Arpit Thool	Fall 2023 - present
Dibyendu Brinto Bose	Spring 2023 - present
Swanand Vaishampayan	Spring 2023 - present
Tianjia Wang	Spring 2023 - present
Hunter Leary	Fall 2022 - present
Minhyuk Ko	Fall 2022 - present
Xiaoxiao Gan	Summer 2022 - present
Shawal Kahlid	Spring 2022 - present

MS Students

Aninditaa Chauhan	Summer 2025 - present, expected Spring 2025

Undergraduate Students

Justin Burns	Fall 2025
Rishan Biju	Fall 2024-Spring 2025
Dan McCabe	Fall 2024
Theo Tran	Fall 2024
Matthew Trimble	Spring 2024-Fall 2024
Yasemin Tanyu	Fall 2023-Spring 2024

Graduated Students

Sahar Farzanehpour	Summer 2025
James Barber	Spring 2025
Peiqing Guo	Spring 2025
Swetha Rajeev	Spring 2025
Tian-Yu (Edward) Shiung	Spring 2025
Huayu Liang, MS	Fall 2024
Grace Govan, BS	Spring 2024
Md Mahim Haque, MS	Fall 2023
Dylan Murphy, BS	Summer 2023
Sahar Farzanehpour, BS	Spring 2023
Jenna Krebs, BS	Spring 2023
Brian Bell, BS/MS	Spring 2023
Lucas Franke, BS/MS	Spring 2023
Sean Gruber, MS	Spring 2023
Nivishree Palvannan, MS	Spring 2023
Ryan Wood, MS	Spring 2023
PeiQing Guo, BS	Spring 2022

Multicultural Academic Opportunities Program (MAOP)

Rayn Owens (Virginia State)	2025
Travis Chan	2024
Baker Hasan	2024
Javier Ralat	2024
Omer Ahmed	2023
Edwin Lewis II (Morehouse)	2023
Colin Roberts	2023

Center for the Enhancement of Engineering Diversity (CEED) Sponsored Summer Research

Syeda Afia Hossain	2024

♔ Student Awards ♔

Xiaoxiao Gan	*2025 Outstanding Instructor of Record*
Hunter Leary	*Davenport Leadership Scholarship*
Shawal Khalid	*VL/HCC GC Travel Award*
Shawal Khalid	*2024 Instructor of Record*
Yasemin Tanyu	*VTURCS 2024* [2nd place]
Omer Ahmed	*2024 LSAMP VA—NC Alliance Undergraduate Research Symposium* [1st place]
Omer Ahmed	*Dr. Wayne Scales Undergraduate Research and Creative Scholarship Symposium* [2nd place]
Minhyuk Ko	*VL/HCC Best Short Paper Honorable Mention*
Shawal Khalid	*Bitshares Fellowship*
Brian Bell	*New Horizon Graduate Scholar*

Thesis Advisory Committees

(*Student advisor is in italics and graduation year in parentheses.*)

- Leo St. Amour, PhD (*Dr. Eli Tilevich*)
- Yeana Bond, PhD (*Dr. Na Meng*)
- Tien Nguyen, PhD (*Dr. Muhammad Ali Gulzar*)
- Alex Hicks, PhD (*Dr. Cliff Shaffer*)
- Taufiq Daryanto, PhD (*Dr. Eugenia Rho*)
- Sabaat Haroon, PhD (*Dr. Muhammad Ali Gulzar*)
- Provakar Mondal, PhD (*Dr. Eli Tilevich*)
- Md Mahir Asef Kabir, PhD (*Dr. Na Meng*)
- Gayatri Bhatambarekar, MS (*Dr. Na Meng* and *Dr. Abhijit Sarkar*, 2025)
- Ananya Prakash, MS (*Dr. Mohammed Seyam*, 2025)
- Rishith Gandham, MS (*Dr. Na Meng*, 2024)
- Miles Frantz, PhD (*Dr. Daphne Yao*, 2024)
- Ashwin Rachha, MS (*Dr. Mohammed Seyam*, 2024)
- Yi Lu, MS (*Dr. Sang Won Lee*, 2024)
- Divyansh Mishra, MS (*Dr. Steve Edwards*, 2023)
- Ming Zhu, PhD (*Dr. Ismini Lourentzou* and *Dr. Daphne Yao*, 2023)
- Juntong Chen, MS (*Dr. Na Meng*, 2022)

* All students are in the Department of Computer Science at Virginia Tech unless otherwise specified