

# Demetrius K. Green

## Curriculum Vitae

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### EDUCATION

- 2015 – Present      Ph.D. Student (*ABD*) - **North Carolina State University**, Raleigh, NC  
Concentration: Industrial-Organizational Psychology
- 2013                      B.A. - **North Carolina State University**, Raleigh, NC  
Concentration: Psychology, Cum laude, Psi Chi

### RESEARCH INTERESTS

Quantitative analysis & machine learning; Assessment design & validation; Data science & visualization; Survey methodology & design; Organizational behavior

### MANUSCRIPTS

1. Smith, K.N. & **Green, D.K.** (2021). Employer internship recruiting on college campuses: "The right pipeline for our funnel." *Journal of Education and Work*, 34(3): 1-18.  
<https://doi.org/10.1080/13639080.2021.1943333>
2. Smith, K.N. & **Green, D.K.** (2019). *Career services and internship recruiting: "The next level of investment."* Under Review.
3. **Green, D.K.** (2018). *A modus operandi showdown in counterproductive work behavior research: Mixture modeling vs. hierarchical agglomerative clustering.* Unpublished manuscript, Department of Psychology, North Carolina State University, Raleigh, NC.

### CONFERENCE PRESENTATIONS

1. Meade, A., Mead, A.D., Robie, Ch., Wilgus, S., **Green, D.K.**, Ahmad, U., & Valore, A. (2020, May). *Life in the Fast Lane: Advances in Rapid Response.* Symposium presented at the 35<sup>th</sup> annual conference for the Society for Industrial and Organizational Psychology, Austin, TX (*Virtual*).
2. Smith, K.N. & **Green, D.K.** (2018, May). "What can we do to help them?": *An empirical approach to understanding college internship recruiting.* Session presented at the 18<sup>th</sup> annual conference of the North Carolina Association of Colleges and Employers, Charlotte, NC.
3. Middleton, J., Murphy-Hill, E., Green, D.K., Meade, A., Mayer, R., White, D., & McDonald, S. (2018, May). *Which Contributions Predict Whether Developers are Accepted into GitHub Teams.* Paper presented at the 15<sup>th</sup> annual International Conference on Mining Software Repositories, Gothenburg, Sweden. <https://doi.org/10.1145/3196398.3196429>

4. **Green, D.K.** (2017, May). *A configurational approach: Using profiles to investigate organizational justice perceptions*. Poster presented at the 29<sup>th</sup> annual meeting of the Association for Psychological Science, Boston, MA. [Poster](#).
5. Illingworth, J., Moon, S., Morelli, N., McLane, W., Wilgus, S., **Green, D.K.**, Thompson, I. (2017, April). *Criterion validity of assessments delivered on mobile and non-mobile devices. Mobile Testing "In the Wild." Apps, Reactions, Images, Criterion Validity*. Symposium presented at the 32<sup>nd</sup> annual conference of the Society for Industrial and Organizational Psychology, Orlando, FL.

## **WORK EXPERIENCE**

### **Visa, Arlington, VA**

Senior Manager, Data Scientist: April 2021 – Present

- Developed and managed a project that utilized third-party credit bureau data to provide contextual/demographic attribute data for a real-time economic indicator product based on the US consumer market using VisaNet data
  - First team product to utilize updated demographic information to provide segment-based insights and comparative spending (e.g., age, income, etc.) based on fully deidentified information at the transactional level
  - Strongly adhered to strict legal guidelines from product inception (script development, storage and data retention, etc.).
- Actively maintaining the production process for a global, real-time economic indicator, that measures the momentum behind consumer spending; it reflects the share of cardholders of have increased/decreased their spending YoY
  - Handled migration of data and redevelopment of scripts for the United Kingdom and Ireland
  - Currently running, monitoring, and performing quality assurance checks on Australia and New Zealand production process.

### **Clarkson Consulting, Durham, NC**

Senior Data Scientist: February 2020 – April 2021

- Responsible for modeling the temporal relationship between engagement activity of +40k HCPS and new patient starts for a rare disease (~1% rate) using R and leveraging distributed, in-memory computing frameworks
- Expanded the analytic capabilities of a large consumer products manufacturer by assembling and deploying an ML-powered time series tool used to forecast 100+ customer-specific P&L sheets

### **Fidelity Investments, Durham, NC**

*People Analytics Intern*: May 2019 – August 2019

- Conducted the psychometric evaluation and validation study of main assessment used by the leadership development team
- Provided domain knowledge for the development of additional surveys used across the organization
- Utilized data ingestion and integration tools (i.e., PySpark, Hive, Hadoop) to build, measure, and analyze extensive datasets across various cloud platforms to inform key personnel and manager prediction models

**The William and Ida Friday Institute for Educational Innovation, Raleigh, NC***Graduate Research Assistant: August 2018 – November 2018*

- Models of Application for the Murphy-Meisgeier Type Indicator for Children® (MMTIC)
- Developed and evaluated education initiatives for state and private organizations; created logic models and research designs for projects
- Validated data collection tools; cleaned, managed, and analyzed data to present to stakeholders for data-driven recommendations

**Shaker International, Cleveland, OH***Insights Team Intern: June 2017 – August 2018*

- Spearheaded exploratory data science efforts and initiatives to better understand and analyze client data using proprietary pre-interview tests
- Created and maintained a variety of visualizations for multiple team projects across business unit
- Wrote and reviewed R & SPSS code as well as provided reports for company-wide presentations to assist cross-functional teams

**Office of Institutional Research and Planning, Raleigh, NC***Graduate Office Assistant: August 2016 – March 2017*

- Actively supported the Director of Survey Research by collecting, organizing, and reporting university survey data; assisted with completing everyday organizational demands

**National Center for O\*NET Development, Raleigh, NC***Occupational Analyst Contractor: March 2016 – August 2018*

- Systematically gathered relevant O\*NET studies to expand the official reference list relating to content validation; literature and internet searches of pertinent non-peer review articles and anecdotal company stories that utilize O\*NET data
- Continually updated and coordinated with team members to ensure deliverables were met consistently on a national-level analysis project; analyzed and consolidated thousands of job titles to better streamline the annual restructuring efforts of the system data.

**Park Faculty Scholars, Raleigh, NC***Survey Design & Research Consultant: September 2015 – June 2016*

- Designed and assembled the infrastructure of several automatized surveys for the Park Faculty Scholars using Qualtrics software
- Actively brainstormed and researched additional scales to collect and analyze longitudinal data to improve the selection process

**Personify, Raleigh, NC***e-Recruitment & Sourcing Specialist: September 2013 – August 2014*

- Systematically sourced candidates using LinkedIn and other professional networking websites for recruiting efforts across various industries (engineering, bioengineering, etc.)
- Used Taleo and internal software programs to monitor and maintain pipelines for positions on an ongoing basis.

## **RESEARCH & PROJECT EXPERIENCE**

### **NILIE – PACE Subscale Validation Study – Pro Bono**

*Assessment Scientist* -: August 2019 – Present

- Contributing functional programming, statistical analyses, and methodological support for a nationwide survey instrument aimed to gather community college employees' perspectives on campus climate
- Spearheading the development and validation of a redesigned other-oriented instrument used to assess the effects of study abroad programs in higher education
- Acting as a reviewer for the Journal of Higher Education, focusing on survey development and advanced statistical modeling manuscripts.

### **Laboratory of Analytic Sciences - GitHub Team Predictions and Developer Contributions**

*Graduate Researcher*: January 2019 – December 2019; January 2017 – December 2017

- Bridged the social science-software development gap by supplying R code and other programming support for a behavioral science application used to enhance workflow and performance of teams across several government sectors ([WestWolf](#))
- Provided feature engineering efforts and technical support for big-data datasets comprised of thousands of GitHub team version control activity
- Collaborated with a computer science team to build predictive models comparing various forms of software contributions to investigate team-developer relationships over time; [paper submission](#)

### **S.L.E.D. Collaborative – NC Community Transitions Institute**

*Research Associate* - January 2016 – December 2016

- Reviewed and augmented components of person-centered surveys used by the North Carolina Community Transition Institute; provided methodological support for survey design and assessed quantitative and qualitative output in executive summaries
- Actively worked with an interdisciplinary team to integrate I-O psychology principles to strengthen person-centered practices; conducted literature reviews of applicable principles

### **Criterion-Validity of Assessments Delivered on Mobile and Non-Mobile Devices**

*Graduate Research Assistant*: September 2015 – April 2016

- Brainstormed and collaborated with researchers to facilitate a multi-university experiment that examined selection criteria via mobile and non-mobile devices
- Administered and proctored in-person experiments; assigned credits to successful undergraduate participants and provided troubleshooting where necessary

### **NC I-O Psychologists Executive Committee Work Analysis – Pro Bono**

*Research Assistant*: January 2013 – October 2013

- Participated in a pro-bono work analysis to analyze the roles of Executive Committee members with the goal of reducing role ambiguity and formalizing tacit knowledge by creating a task checklist and timeline for Executive Committee members
- Job descriptions and archival data were used to generate questions for structured interviews with current and past committee members; task inventories were developed and administered online to NCIOP members, and responses informed checklist iterations.

**INVITED ADDRESSES**

1. **Green, D.K.** (June - August 2019) *Intro to R – A Beginner’s Series*. Invited address for the NC State I-O Psychology Dept., North Carolina State University.
2. **Green, D.K.** (2018, March) *Autocross Event & Site Satisfaction Survey and Tech Report*. Invited address for the Tar Heel Sports Car Club (THSCC), Durham, North Carolina.
3. **Green, D.K.** (2017, September). *Measuring Performance in Classification Models*. Invited address for the Applied Predictive Modeling Series, North Carolina State University.

**RELEVANT COURSEWORK**

- Advanced Big Data Analytics for Psychologists
- Structural Equation Modeling
- Multilevel Modeling
- Social Network Analysis <sup>A\*</sup>
- Counterproductive Work Behavior Research
- Applied Bayesian Analysis <sup>A\*</sup>
- Item Response Theory
- Applied Nonparametric Statistics <sup>A\*</sup>
- Training Research
- Experimental Statistics in Biological Sciences I & II
- Survey of I-O Psychology
- Organizational Development & Change
- Multivariate & Longitudinal Data Analysis
- Personnel Selection Research
- I-O Practicum: Professional Development
- Advanced Leadership Research
- Psychometrics
- Organizational Psychology I & II
- Advanced Social Psychology

**PROFESSIONAL ASSOCIATION MEMBERSHIPS & SERVICE**

Association for Psychological Science (APS), *Member: 2016-Present*

APS Student Caucus: **NC State University Student Representative: (2018-Present)**

Society for Industrial-Organizational Psychologists (SIOP), *Member: 2015-Present*

NC Industrial-Organizational Psychologists (NCIOP), *Member: 2013-Present*

Executive Committee: **Student Representative: (2015-2016)**

**UNIVERSITY SERVICE**

College Computing and Tech Committee, **Graduate Student Representative (2017- Present)**

Graduate Association for Students in Psychology (GrASP), *Member: 2015-Present*

Executive Committee: **I-O Program Representative: (2016- 2018)**

**TECHNICAL COMPETENCIES**

- **Software:** R, RShiny, SQL, Bash, Python, Jupyter, SAS, SPSS, Excel, Tableau, Apache (Spark, Hadoop, Hive, etc.), Hue, DbVisualizer, Presto, RapidMiner, KNIME, Azure DevOps, AWS, HTML5/CSS, WordPress, Qualtrics, SurveyMonkey, Microsoft Suite, Amazon Mechanical Turk, Proficient in Windows and Apple OS

- **Analytic Experience:** Item Response Theory, General Linear Modeling (Multivariate ANOVA, Regression, etc.), Logistic Regression, Structural Equation Modeling, Multilevel Modeling, CART, Random Forests, Principal Components Analysis, Factor Analysis (EFA, CFA, etc.), Cluster Analysis (LPA, LCA, etc.), Dimensionality Reduction, Discriminant Analysis, Longitudinal Data Analysis, Social Network Analysis, Text Analysis (Sentiment, Mining, etc.), Machine Learning (Natural Language Processing, KNN, SVM, etc).

*Last updated: May 13, 2022*