Grady King

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Research Interests

Hi there! I am a Goldwater scholar from West Virginia looking to conduct biomedical research, using statistics and data science methods to understand the pathology of human diseases and how to treat and prevent them. With rapid progress in sequencing genomes, transcriptomes, and proteomes, as well as data from metabolites, cytokines, electronic health records, digital imaging and wearables, more biological data can be collected at a lower cost, yielding enormous potential for unique insights.

Modern human diets are starkly different than they've been for thousands of years, with abundance of food now being the more common health risk rather than lack of food. Diet and nutrition make-up have been linked to the progression of most chronic diseases, and better understanding and prediction of how nutrition affects the body could dramatically help at-risk patients improve their prognosis.

Education

West Virginia University GPA: 3.97/4.00

BS in Data Science, Minors in Molecular Medicine and Statistics $\mathbb{E}$(Graduation) = May 2026

Research Experience

Genomics for viruses and gene regulation mechanisms Jan 2025 – Present

Dr. Peter Stoilov, WVU Department of Biochemistry and Molecular Medicine *Morgantown, WV*

- Genetically monitoring over 200 viruses and their variants in West Virginia patient samples from all around the state using Broad Institute's viral-pipelines library
- Using Cromwell to schedule SLURM jobs on WVU's HPC with Singularity containers
- Capstone project investigating the interaction of AGO2/Musashi proteins in photoreceptor cell gene expression

Genomics for nutrition Aug 2025 – Present

Dr. Janet Tou, WVU School of Agriculture and Food Systems *Morgantown, WV*

- Analyzing the effect of binge drinking and Western high-fat high-carb diets on mouse development
- Using DEseq2 for determining differences in gene expression using RNA-seq data
- Assisting with mouse bone cleaning and bone breaking

Causal inference for public health insurance Jan 2023 – May 2025

Dr. Srinivas Palanki, WVU Department of Chemical and Biomedical Engineering *Morgantown, WV*

- Investigating the impact of the Affordable Care Act on chronic disease mortality
- Self-taught R language for dataset cleaning, data visualization, and causal inference analysis
- Full literature review, wrote 95% of peer-reviewed paper, responded to referee comments

Technical Strengths

Languages:	R, Python, Java, C/C++, SQL, WDL, HTML/CSS, LabVIEW
Libraries:	Tidyverse (tidyr, dplyr, ggplot2, etc.), Requests, BeautifulSoup, Matplotlib, PyTorch, DESeq2
Developer Tools:	Unix, GitHub/Git, Kubernetes/Docker/Singularity, Conda (dependency resolution), SLURM

Selected Classes

Biochemistry/Diseases	Data Science	Statistics/Math	Computer Science
Human Physiology	Data Sci with R	Design of Experiments	File & Data Structures
Human Biochemistry	Data Sci with Python	Sampling Theory	Discrete Math
Methods to Diagnose Diseases	Databases	Regression Analysis	Analysis of Algorithms
Age-related Disease Mechanisms*	Statistical Machine Learning 1	Numerical Analysis*	Operating Systems
Metabolic Disease Mechanisms*	Statistical Machine Learning 2†	Linear Algebra	Computer Networking
Advanced Nutrition*	Cloud & Parallel Computing*	Calculus I, II, III, IV	Programming Languages
		Intro to Proofs	

*: taking Spring 2026
†: B final grade

Honors & Awards

Barry Goldwater Scholarship ($7500, 2025); WVU Eberly Scholarship ($2000, 2025-26); WVU Honors Foundation Scholar (2024); National Merit & WVU University Merit ($28000, 2022); US Presidential Scholar Nomination (2022); National Honor Society Member (2021); AP Scholar with Distinction (2021)

Journal Articles

[A1] Grady King and Srinivas Palanki. Impact of the Medicaid expansions on heart disease mortality in the United States: A county-level analysis. *Economic Affairs*, 45:78–91, 2025. doi:10.1111/ecaf.12685.

Poster Presentations

[P1] Tristen Hudson, Grady King, and Srinjoy Das. Using Video Multimethod Assessment Fusion metric to measure perceptual quality in motion transfer applications (not primary presenter). In *West Virginia University Summer Undergraduate Research Symposium*, Morgantown, WV, July 2025. URL: https://symposium.foragerone.com/17-annual-summer-undergraduate-research-symposium/presentations/66069.

[P2] Grady King, Rahat Arefy, and Srinivas Palanki. Monte carlo simulation of affordable care act's impact on lung cancer mortality. In *National Conference of Undergraduate Research*, Pittsburgh, PA, April 2025.

[P3] Grady King, Rahat Arefy, and Srinivas Palanki. Monte carlo simulation of affordable care act's impact on lung cancer mortality. In *WV Undergraduate Research Day at the Capitol*, Charleston, WV, March 2025.

[P4] Grady King and Ignacio Segovia-Dominguez. Simulating air pollution dynamics in the united states with kalman filters and machine learning. In *West Virginia University Spring Undergraduate Research Symposium*, Morgantown, WV, March 2025. URL: https://github.com/gradyking/DSCI-311-Final/blob/main/20250424%20Symposium%20Poster.pdf.

[P5] Grady King and Srinivas Palanki. Impact of the Affordable Care Act on heart disease mortality in the United States. In *West Virginia University Summer Undergraduate Research Symposium*, Morgantown, WV, July 2023. URL: https://symposium.foragerone.com/16th-summer-undergraduate-research-symposium/presentations/58180.

[P6] Grady King and Srinivas Palanki. Impact of the Affordable Care Act on heart disease mortality in the United States. In *West Virginia University Spring Undergraduate Research Symposium*, Morgantown, WV, April 2023. URL: https://undergraduateresearch.wvu.edu/files/d/683ef0a6-59d0-4e1a-83d7-bf464902ff06/7th-annual-spring-symposium-2023.pdf#page=107.

Oral Presentations

[O1] Grady King and Srinivas Palanki. Impact of the Medicaid expansions on heart disease mortality in the United States. In *National Conference of Undergrad Research* ***(NCUR)***, Long Beach, CA, April 2024.

[O2] Grady King and Srinivas Palanki. Impact of the Affordable Care Act on heart disease mortality in the United States. In *West Virginia University Fall Undergraduate Research Symposium*, Morgantown, WV, December 2023. URL: https://symposium.foragerone.com/fall-2023-symposium/presentations/59843.

Work Experience

Oncology Research Coding Intern Jan 2024 – Jul 2024
Dr. Nancy Guo, Sostos LLC *Morgantown, WV*

- Collected repositioning drug data for non-small cell lung cancer treatment
- Wrote webscraping scripts in Python libraries BeautifulSoup, Requests, and Pandas
- Wrote nine scripts with 1186 lines of code for extracting from six different websites
- Verified assumptions with PI, ensured validity of search matches and drug equivalencies

- Wrote 28 pages of documentation for running scripts, updating data and future code re-use

TestWELL Peer Tutor Mar 2023 – Dec 2024
WVU TestWELL Tutoring Center, WVU Honors College *Morgantown, WV*

- Assisting students with the transition from pedagogy to andragogy, promoting independence
- Helping over 50 students per semester with algebra, trigonometry, calculus, and/or computer science, leading them with Socratic questioning techniques

DSCI 101 Group Tutor Aug 2024 – Dec 2024
WVU School of Mathematical and Data Sciences *Morgantown, WV*

- Tutored statistics, Python, and Unix for beginner data science students in a weekly tutorial

Volunteering Experience

WVU Climbing Club | *President (Jan 2024 – Present), Secretary (Jan 2023 – Dec 2023)* Aug 2022 – Present

- As president: wrote website in Jekyll, organizing officer meetings, contacting local organizations and clubs, replying to emails for prospective members, maintaining registration, planning events and club gear availability
- As secretary: managed memberships and WVUENGAGE page, sent emails for carpools, club updates, and event reminders, maintained waiver information, took meeting minutes
- Learning problem-solving skills, determination, ability to be resilient after failure

Mountaineer Area Robotics (MARS) Volunteer | *Programming & Driving Mentor* May 2023 – Jan 2025

- Mentoring high school students in competitive robotics, hosting drive practices for students
- Teaching Java skills with a structured training program, assisting in debugging and development
- Encouraging thorough documentation, cleanliness of code, and collaboration
- Volunteered 430 hours in 1.5 years

References

Available upon request

Last Updated: November 12, 2025