Grady King

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Education

West Virginia University — Morgantown, WV
BS in Data Science, Minors in Molecular Medicine, Computer Science, and Statistics — $\mathbb{E}$(Graduation) = May 2026

Morgantown High School — Morgantown, WV
High School Diploma — August 2018 – May 2022

Honors & Awards

WVU Goldwater Nominee	Jan 2025
WVU Eberly Scholar	2025-2026
WVU Honors Foundation Scholar	May 2024
WVU President's List	Fall 22, Spring 23, Fall 23, Spring 24
National Merit & WVU University Merit Recipient (tuition for 4 years)	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. 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 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.

[P3] 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.

Research Interests

I am primarily interested in biomedical informatics, specifically the use of statistics and data science to understand the pathology of human diseases, and how to treat and prevent them. With rapid progress in sequencing genomes, transcriptomes, and proteomes, and data collection in other areas like metabolites and cytokines, more data can be collected at a lower cost, yielding enormous potential for unique insights.
My specific foci include:

1. *Appalachian Health:* I am a sixth-generation West Virginian, and it pains me to see that my state has some of the worst health outcomes in the US. WV has the fastest shrinking population of any US state, and are first in the nation for prevalence of heart attacks, obesity, arthritis, COPD, and drug overdoses.

   We are an incredibly hard-working people, forgotten by the corporations that exploited us for extreme manual labor and raw materials. I hope for my life's work to contribute to the betterment of my state's health, and more broadly to Appalachia's health and the health of all low-income individuals.

2. *The Human Microbiome:* Over half of all cells in the human body are not human– they are bacteria, archaea, and fungi. Modern research has pointed at dysbiosis, a large disruption in the make-up of a person's microbiome, as a common characteristic of chronic disease patients. Several questions pique my interest:

   - Does dysbiosis cause chronic disease, or does chronic disease cause dysbiosis?
   - How does the modern advent of ultra-processed foods influence the microbiome?
   - Is the variability of treatment efficacy in medicine related to the microbiome?
   - Could we better individualize prognosis and treatment if informed by microbiome tests?

3. *Ultra-Processed Foods (UPF):* UPFs are a new advent in human nutrition (∼1980s and on), with food products often made to maximize profits. Obesity is a pervasive problem in high-income countries, and is beginning to spread to middle- and even some low-income countries, suspiciously coinciding with ultra-processed foods becoming more available. Especially in high-income countries, UPF are cheap and available, and can be the sole option for food for many low-income individuals.

   With recent connections between UPF and distruptions in the microbiome, as well as heightened inflammation, more research is needed into its effects, and how to make it safer. Do the best diets simply follow what people have historically always eaten in a region (whole foods without additives)?

Research Experience

Undergraduate Research Assistant | RAP & SURE Apprentices Jan 2023 – Present
Dr. Srinivas Palanki, WVU Department of Chemical and Biomedical Engineering *Morgantown, WV*
- Journal Article: [A1], National Conference: [O1], Local Presentations: [O2], [P2], and [P3]
- Interacted with public CDC datasets, found relevant covariate data
- Self-taught R language for dataset cleaning, data visualization, and causal inference analysis

Undergraduate Research Assistant Jan 2025 – Present
Dr. Peter Stoilov, WVU Department of Biochemistry and Molecular Medicine *Morgantown, WV*
- Transitioning to Broad Institute's viral-pipelines library for genetically monitoring over 200 viruses and their variants in West Virginia patient samples from all around the state
- Using Cromwell to schedule SLURM jobs on WVU's HPC with Singularity containers

Undergraduate Research Assistant Jun 2024 – Dec 2024
Dr. Srinjoy Das, WVU School of Mathematical and Data Sciences *Morgantown, WV*
- Works: [P1]
- Applied deep learning methods (GRU, LSTM, normalizing flow) to video compression using PyTorch-ts

Oncology Research Assistant Jan 2024 – Jul 2024
Dr. Nancy Guo, WVU Cancer Institute *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

Work Experience

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 Mentor, Driving Mentor* May 2023 – Present

- 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

Technical Skills

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

Last Updated: February 15, 2025