Aleksandr Michuda

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PROFESSIONAL SUMMARY

Economist and Data Scientist with a Ph.D. specializing in **causal econometrics**, **machine learning (ML)**, **data fusion** and **Natural Language Processing (NLP)**. Proven track record of leveraging **high-frequency administrative data** and **satellite imagery** to solve complex problems in labor markets, health systems, and climate adaptation. Extensive experience leading **private sector collaborations** with industry platforms (Uber, SafeBoda, and Zipline) and securing over $200,000 in grant funding for experimental research.

TECHNICAL SKILLS

- **Languages:** Python, R, Stata, GitHub, Bash, GAMS.
- **Data Science:** Predictive Modeling, ML-based Causal Inference, Data Fusion, Geospatial/Satellite Analysis, Monte Carlo Simulations, NLP, Web Scraping, LLMs
- **Econometrics:** Experimental Design (RCTs, A/B Testing), Random Coefficient Models, Wild Cluster Bootstrapping, Difference-in-Differences, Regression Discontinuity Designs, Bunching Designs, Synthetic Controls.

PROFESSIONAL EXPERIENCE

Swarthmore College | Visiting Assistant Professor 2024 – Present
- Developing ML-robust linear models to address misclassification bias in causal studies.
- Teaching core courses in **Introduction to Econometrics** and **Economics**.

Cornell University (CDSES) | Assistant Research Professor 2021 – 2024
- Faculty lead for **Breakthrough Tech AI**, mentoring women of color in machine learning and securing industry roles.
- PI on an NSF-funded webinar series focused on research reproducibility and transparency.

Uber Inc. | Data Science Intern Sep. 2019 – Dec. 2019
- Analyzed large-scale administrative data to evaluate the effects of driver rewards on sentiment and productivity using a regression discontinuity design.

PRIVATE SECTOR COLLABORATIONS & PLATFORM RESEARCH

SafeBoda (Uganda) | Principal Investigator 2024 – Present
- Leading two Gates Foundation-funded projects ($200,000+) to conduct randomized platform experiments on income guarantees and earnings flexibility.
- Testing randomized interventions for index-based weather insurance to buffer drivers against agricultural income shocks.

Uber Inc. | Lead Researcher 2019 – Present
- Analyzed proprietary Uber administrative data to demonstrate how weather shocks in rural home regions drive urban labor supply adjustments in Uganda.

- Successfully negotiated data user agreements to leverage private platform data for academic and methodological contributions.
- Analyzed driver data to evaluate labor market effects on COVID-19 policies in Austrailia utilizing a bunching design.

Zipline (Ghana) | Lead Researcher 2023 – Present

- Collaborating with Zipline to analyze high-frequency logistics data from Unmanned Aerial Vehicle (UAV) medical delivery platforms.
- Integrated platform logistics data with **satellite measures of surface temperature** to causally measure the impact of extreme weather on health system capacity.

TECHNICAL PROJECTS & OPEN SOURCE

- **MINIMOD (Python):** Developed an open-source package to evaluate the cost-effectiveness of nutritional interventions using 24-hour dietary intake data.
- **Satellite Nowcasting (ML):** Fused high-frequency household data with satellite imagery to predict human capital disruptions and seasonal recovery in rural Malawi.
- **CRC Models (Stata):** Built and documented a package for fitting and interpreting Correlated Random-Coefficient models, `randcoef`.
- **Wild Cluster Bootstrapping:** Developed packages for robust statistical inference in complex data structures in Python, `wildboottest`

EDUCATION

- **Ph.D., Agricultural and Resource Economics** | UC Davis | 2021
- **BA/MA, Economics** | CUNY Hunter College | 2014
- **BA, Philosophy** | CUNY Hunter College | 2014