Jeremy Springman, PhD
Director of Research, PDRI-DevLab
Research Assistant Professor, University of Pennsylvania
jrspringman.github.io

I am an applied researcher (and enthusiastic Zillow user) passionate about delivering innovative quantitative user research to inform real-world decision-making. As a Director of Research at PDRI-DevLab and Research Assistant Professor at the University of Pennsylvania, I have spent the last decade using surveys, causal inference, and AI/ML to inform high-stakes decision-making by policymakers in the U.S. government. After successfully leading more than a dozen large-scale research projects commissioned by federal agencies on topics ranging from planning around geopolitical risks to the optimal design of awards and contracts, I am eager to apply my skills in an industry setting.

By working with large teams of collaborators and stakeholders to deliver rigorous, data-driven insights that inform strategic decisions, I have cultivated the skills and experience required to work closely with Zillow's product and design teams. I have 12 years of experience conducting background research and interviews, identifying and recruiting research participants from unique, targeted samples, and synthesizing insights to inform the design of policies and presenting the results to stakeholders. My projects have pioneered the use of AI tools for data processing and research tasks in social science.

Over the past six years, I have managed and mentored an interdisciplinary team of twelve researchers and data scientists. Under my leadership, this team has planned and executed many large-scale projects, ensuring that the findings are both rigorous and actionable. Since 2022, I have been awarded nearly $3.5 million as a principal investigator on both federal and private research grants, carrying projects from conceptualization and proposal through design, implementation, and the dissemination of results to the scientific and policy communities.

I have deep experience leading randomized experiments and causal inference projects commissioned by stakeholders to generate actionable insights. These projects have given me years of experience using advanced methods to address novel design and measurement challenges. I have designed and publicly pre-registered more than a dozen randomized experiments using bespoke simulation-based power calculations. I have also leveraged tools like non-bipartite matching, matched-group randomization, and re-randomization to extract maximum statistical precision from small and high variance samples and deployed sophisticated approaches to adjust for multiple-hypothesis testing, including Bayesian regularization. I have also designed trials to deal with the reality of social networks by collecting and using network data to estimate the size of treatment spillovers through network connections.

In addition to generating academic publications and contributing to our theoretical understanding of the social world, my research has directly informed policy. As a research associate at Duke University, I led an evaluation that provided rigorous evidence that a U.S. government foreign aid program was failing to accomplish it's goals, resulting in the program's cancellation and a more effective use of government resources.

In another project, I worked with policymakers at the U.S. Agency for International Development to design a conjoint survey experiment that answered pressing questions about the strategic behavior of non-profits receiving U.S. support in highly repressive countries. Based on the findings, I produced a policy brief recommending changes to how the agency supports local partners in repressive

countries and presented the recommendations to high-level officials. A third project used insights from behavioral psychology and economics to design and evaluate an intervention to increase civic engagement and social cohesion among youth in highly polarized countries. This resulted in a highly effective intervention that my partners are seeking to scale across developing countries.

I also have extensive background in machine learning research. As a post-doctoral research associate, I co-founded a high-profile project to build a public-facing early warning system forecasting political instability in emerging markets. Managing a team of data scientists and PhD students, I led the construction of a research infrastructure to continually update a large, highly multilingual corpus of high-quality media and use deep learning translation models and fine-tuned transformers and LLMs to extract information from text. This project's funding was renewed over six years and attracted support from the U.S. Department of Defense, Agency for International Development, and private donors.

My lab used data from this project publish more than a dozen commissioned policy reports, develop public-facing data dashboards averaging 150 hours of monthly active usage time by decision-makers, and attracted 1,200 unique users from 70 countries over a 10 month period, with more than 800 policymakers signing up to receive our monthly reports. The success of this project led to my promotion to Research Assistant Professor, where I manage three full-time data scientists, five pre-doctoral fellows, multiple affiliated faculty and PhD students, and a large pool of undergraduates.

My experience working closely with policymakers and stakeholders prepares me to collaborate with Zillow's product managers and design team to identify challenges, design solutions, and measure their impact on key outcomes. I am passionate about translating scientific research into action, and have given invited talks to hundreds of policymakers across more than a dozen agencies in five countries. I specialize in communicating technical material to non-technical audiences: from policy officials at the U.S. Department of State to civil society stakeholders across emerging markets, I have built a track record of translating complex analyses into clear, strategic recommendations. Furthermore, my international experience makes me well prepared to work with Zillow's global community of users.

I have deep technical proficiency in statistical programming (R and Python), document preparation and visualization (markdown, Quarto, and Shiny), version control (git, GitHub, and renv), programming online surveys (Javascript and html), and have managed teams using high-performance computing environments, NoSQL document-stage databases, and core machine learning Python libraries (scikit-learn, XGBoost, LightGBM, PyTorch, Optuna). I'm excited to deploy these skills in the technology sector, where analytics can inform decisions at an even faster pace.

Working at a university has also given the opportunity to teach and mentor students at the undergraduate and graduate level. My academic career has taught me the importance of mentorship, and I plan to continue fostering data science best practices by guiding junior colleagues and building a collaborative culture that values creativity and rigor.

As an applied researcher, I have been extremely successful at winning highly competitive research grants. However, recent terminations of major federal research initiatives have cut-off opportunities for high-impact collaboration between external researchers and government agencies. I am now looking to transfer my skills to the private sector.

Zillow is an ideal fit for several reasons. Having followed Zillow as an active user for years, I am enthusiastic about contributing to the platform's growth and evolution. In summary, I highly

qualified to drive strategic mixed-methods research, develop innovative approaches to measurement, and improve product design with rigorous behavioral science.