

OPEN INNOVATION ■ COMMUNITY BUILDING ■ TECH FOR GOOD ■ NEW VENTURES

Mission-oriented innovator with 10 years post-PhD experience operationalizing emerging tech and fostering inclusive ecosystems in academic, corporate, government, and venture studio environments. Biased towards informed action, embracing rapid learning through diverse collaboration. Jobs-to-be-Done strategist, rooted in people-first empathy.

EXPERIENCE

LG NOVA, LG Electronics North American Innovation Center

DIRECTOR OF NEW VENTURES, ENTREPRENEUR-IN-RESIDENCE, INCUBATION TEAM

📍 Santa Clara, CA office (remote position)

May 2022 – Mar 2023

- Established strategy for LG's "Mission for the Future" clean tech and energy initiative via partner ecosystem development.
- Built relationships with startups, oversaw pilots to validate solutions, and mentored founders in a funding competition.
- Prepared pitch decks and startup investment recommendations for LG executive leadership, securing \$4 million investment.
- Delivered long-term business plans and influenced LG executive leadership to launch a new business unit.

General Services Administration, Technology Transformation Services

WHITE HOUSE PRESIDENTIAL INNOVATION FELLOW

SENIOR ADVISOR TO U.S. DEPARTMENT OF LABOR (DOL)

📍 Washington, DC (emergency remote)

Oct 2020 – May 2022

- Advised DOL's Office of Disability Employment Policy, Chief of Emerging Tech, and Chief Innovation Officer and developed resources for promoting inclusive AI adoption in employment and launching service offerings internally across DOL.
- Developed the DOL's responsible AI governance process. Performed agency-wide outreach on benefits, risks, and use cases.
- Managed a pilot with an AI startup to develop a job-matching tool. Assessed bias and identified a more equitable alternative.
- Led development of the strategic plan for the Federal AI Community of Practice. Organized government-wide programming.
- Launched the AI Community of Practice's Responsible AI working group. Fostered relationships with stakeholders across dozens of Federal agencies and coordinated a sprint to co-create AI resources now demonstrated to four other countries.

High Alpha Innovation

SENIOR DATA SCIENTIST

📍 Indianapolis, IN

Jul 2020 – Oct 2020

- Performed business ideation using design thinking and lean startup methodologies to test new concepts. Collaborated with corporate intrapreneurs on investment pitch decks, resulting in a startup launched in partnership with Koch Industries.

High Alpha Studio

DATA SCIENTIST / MACHINE LEARNING ENGINEER

📍 Indianapolis, IN

Oct 2018 – Jun 2020

- Developed machine learning pipelines and designed cloud-based architecture for several early-stage software companies.
- Prototyped technology and supported business ideation and incubation in a venture studio environment. Worked collaboratively cross-functionally to prepare and deliver pitch decks to investment team, resulting in four new startups.

Data Intensive Research in Astrophysics and Cosmology (DIRAC) Institute University of Washington

RESEARCH SCIENTIST, SCIENCE PIPELINES TEAM

📍 Seattle, WA

Aug 2016 – Oct 2018

- Led the design and deployment of data processing software as System Lead for two international research collaborations.
- Secured an invited grant from the Heising-Simons Foundation to develop cloud services for the astronomical community.
- Designed and popularized a new format for astronomical data, gaining buy-in from an international standards alliance.

Center for Translational Data Science, University of Chicago

DIRECTOR OF THE OPEN SCIENCE DATA CLOUD

📍 Chicago, IL

Sep 2013 – Jul 2016

- Director of a petabyte-scale science cloud, managed a cross-functional team to support data science programs, operationalize cloud-based tools, and allocate computational services to support thousands of researchers across the globe.
- Established and managed a partnership with NOAA to build a cost-recoverable open data hub with a non-profit consortium.
- Managed an international summer fellowship program and coordinated workshops for training students in cloud computing.
- Wrote performance reports for a grant from a non-profit foundation to demonstrate scientific impact and sustainability.

EDUCATION

New Mexico State University Las Cruces, NM

PHD, ASTRONOMY

University of Chicago Chicago, IL

BA, PHYSICS WITH SPECIALIZATION IN ASTROPHYSICS

SKILLS

Entrepreneurship

Lean Startup • Business incubation

Design thinking • Civic tech

Venture studios • Startups

Community Leadership

Tech ecosystems • Mentoring

Change management

Public outreach • Technical writing

Emerging Technology

Responsible tech • AI/ML

Data management • Cloud pipelines

Agile development • MLOps

THOUGHT LEADERSHIP

Invited Keynote, "Incentivising Good Behaviour: Getting People To Do Nice Things" – FWD50 Ottawa, CAN | Nov 2022

Panelist, "Using Your Tech Skills In Public Service" – Tapia Celebration of Diversity in Computing Virtual | Sep 2021

Speaker, "Cloud architecture for the data scientist" – Indy Cloud Conf 2020 Indianapolis, IN | Jun 2020

Speaker, "Building a newsfeed from the Universe" – Kafka Summit 2019 San Francisco, CA | Oct 2019

Panelist, Careers in Science – Field Museum's 5th Annual Chicagoland Women in Science Mixer Chicago, IL | Oct 2019

Panelist, "Befriending failure" – Tapia Celebration of Diversity in Computing Atlanta, GA | Sep 2017

Speaker, "Building a community fountain around your data stream" – PyData 2017 Seattle, WA | Jul 2017

Panelist, "Turning Big Data into Big Opportunities" – Tapia Celebration of Diversity in Computing Austin, TX | Sep 2016

SERVICE

Committee Member - American Astronomical Society, Committee on the Status of Women in Astronomy Jun 2017 - Nov 2021

- Co-authored a new 10-yr strategic plan. Worked with stakeholders across multiple institutions to collect and synthesize community feedback and provide actionable recommendations to the American Astronomical Society's Board of Trustees.

Editor – AASWomen's Women in Astronomy Newsletter Aug 2016 - Nov 2021

Advisor – #BuiltByGirls WAVE Mentoring Program Jun 2019 - Jun 2021

Mentor – Tanzanian Data Lab + Grindstone Accelerator entrepreneur program Mar 2021

Mentor – Harvard Computer Society's "Tech for Social Good" Entrepreneurship Wintersession Jan 2021

Volunteer – The Children's Museum of Indianapolis, Beyond Spaceship Earth exhibit Aug 2019 - Mar 2020

Co-Organizer – PyLadies Seattle and PyData Seattle Meetup Groups Jan 2017 - Oct 2018

Mentor – New York Academy of Sciences NEXT Scholar Program Mar 2017 - Aug 2017

SELECT PUBLICATIONS

Findings and Recommendations from the AAS Committee on the Status of Women in Astronomy:

Advancing the Career Development of Women in Astronomy

N. Zellner, J. McBride, N. Morrison, A. Olmstead, M.T. Patterson + 9 co-authors

Published in: Bulletin of the American Astronomical Society, Vol. 51, Issue 7, id. 170 (2019)

- State of the profession white paper on career development with recommendations to Federal funding agencies.

Findings and Recommendations from the AAS Committee on the Status of Women in Astronomy:

Towards Eliminating Harassment in Astronomy

N. Zellner, J. McBride, N. Morrison, A. Olmstead, M.T. Patterson + 9 co-authors

Published in: Bulletin of the American Astronomical Society, Vol. 51, Issue 7, id. 169 (2019)

- State of the profession white paper on workplace culture with recommendations to Federal funding agencies.

The Zwicky Transient Facility Alert Distribution System

M.T. Patterson + 9 co-authors for the Zwicky Transient Facility Collaboration

Published in: Publications of the Astronomical Society of the Pacific, Nov 2018, Vol. 131, Iss. 995

- Describes the design and performance of novel, open source software for distributing and processing large data in real time.

The Case for Data Commons: Towards Data Science as a Service

R.L. Grossman, A. Heath, M. Murphy, M.T. Patterson, W. Wells

Published in: Computing in Science Engineering special issue: Science as a Service, Sep 2016, Vol. 18, Issue 5

- Invited paper describing the design and deployment of a cloud services system as a collaborative community research hub.