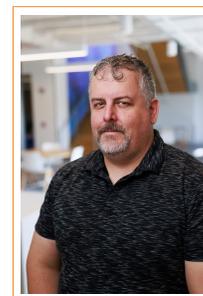


# Timothy Reese

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## Education

- 2015–2022 **PhD in Statistics**, *Purdue University*, West Lafayette, Indiana.  
Advised by Michael Yu Zhu
- 2015–2017 **Master of Mathematical Statistics**, *Purdue University*, West Lafayette, Indiana.
- 2012–2015 **Master of Applied Mathematics**, *California State University of Northridge*.  
Advised by Majid Mojirsheibani
- 2009–2012 **Bachelor of Computer Science**, *California State University of Northridge*.
- 2009–2012 **Bachelor of Applied Mathematics**, *California State University of Northridge*.
- 2007–2009 **Associate in Arts: Liberal Arts and Sciences**, *Antelope Valley College*, Lancaster, California.

## Grants

- 2025 **NIH/NIA R03** (Principal Investigator). *Development of Advanced Analytical Tools Integrating External Datasets with MoTrPAC Data: Utilizing Statistical, Machine Learning, and AI Approaches to Uncover Molecular Mechanisms of Physical Activity*. 1R03AG102039-01. Awarded \$71,168. Project period: 09/22/2025 – 08/31/2026. Impact Score: 30. Co-Investigators: Boran Gao, Fei Xue, Geyu Zhou, Yu Michael Zhu.
- 2024 **NIH Grant** (Co-Investigator). *Social Media Usage and ADRD Risk Among Older Adults*. Requested \$424,315. Not funded.

## Publications

### Journal Articles & Book Chapters

- [4] Yan Cong, Jingying Hu, Timothy Reese, and Hui Liu. How robust are linguistic markers of aging? the case of aging-related social media text. *Natural Language Processing Journal*, 14:100203, 2026.
- [3] Timothy Reese and Yu Michael Zhu. *LB-CNN: Convolutional Neural Network with Latent Binarization for Large Scale Multi-class Classification*, pages 193–214. Springer Singapore, Singapore, 2022.
- [2] Timothy Reese and Majid Mojirsheibani. On the  $L_p$  Norms of Kernel Regression Estimators for Incomplete Data with Applications to Classification. *Statistical Methods & Applications*, 26(1):81–112, 2017.
- [1] Majid Mojirsheibani and Timothy Reese. Kernel Regression Estimation for Incomplete Data with Applications. *Statistical Papers*, 58(1):185–209, 2017.

### In Conference Proceedings

- [2] Timothy Reese and Michael Zhu. LB-CNN: Convolutional Neural Network with Latent Binarization for Large Scale Multi-class Classification. In *2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA)*, pages 142–147, 2020.
- [1] Yukai Zou, Ikbeom Jang, Timothy G. Reese, Jinxia Yao, Wenbin Zhu, and Joseph V. Rispoli. Cortical and subcortical contributions to predicting intelligence using 3d convnets. In Kilian M. Pohl, Wesley K. Thompson, Ehsan Adeli, and Marius George Linguraru, editors,

*Adolescent Brain Cognitive Development Neurocognitive Prediction*, pages 176–185, Cham, 2019. Springer International Publishing.

## Theses

- 2022 Timothy Reese. *LB-CNN & HD-OC, Deep Learning Adaptable Binarization Tools for Large Scale Image Classification*. Ph.D. thesis, Purdue University.
- 2015 Timothy Reese. *Kernel Regression Estimation for Incomplete Data*. M.S. thesis, California State University of Northridge.

## Presentations

- October 2025 AI Bytes Instructor Showcase, *Purdue GenAI Studio: Course-Constrained AI Assistant for STAT 350*, Purdue University Online.
- December 2020 ICMLA, *LB-CNN: Convolutional Neural Network with Latent Binarization for Large Scale Multi-class Classification*, Short Paper.
- July 2018 Huzhou Teachers College, *Delivered a Two-Day Deep Learning Workshop*, Huzhou, China.

## Academic Service

### University

- Member, Academic Organization Committee, Purdue University Senate (2025–2030). Appointed by University Senate Nominating Committee.

### Departmental

- Member, Undergraduate Program in Statistics and Data Science Committee (2023–Present). Responsible for curricular development, recruitment activities, and student awards.
- Served on hiring committees for two Visiting Assistant Professors and one Professor of Practice.

## Professional Service

- 2020–Present Reviewer, *British Machine Vision Conference (BMVC)*.

## Professional Memberships

American Statistical Association (ASA)

## Teaching Experience

- Spring 2026–Present Assistant Professor of Practice, STAT 41800, *Department of Statistics, Purdue University, West Lafayette, IN*.  
New course: Computational Methods in Data Science.
- Fall 2024–Present Assistant Professor of Practice and Course Coordinator, STAT 350, *Department of Statistics, Purdue University, West Lafayette, IN*.
  - Course coordinator across residential, online, and asynchronous sections.
  - Designed and launched inaugural Winter 2025 session, compressing 16 weeks into 10 instructional days.
  - Developed integrated browser-first learning ecosystem including Sphinx-based course website, interactive video platform, statistical simulations, and LatticeAI course-constrained AI assistant.
- Fall 2022–Summer 2024 Visiting Assistant Professor and Course Coordinator, STAT 350/STAT 301, *Department of Statistics, Purdue University, West Lafayette, IN*.
  - Managed and coordinated multiple sections, supervised TAs, and facilitated curricular updates.
  - Transitioned course platforms to modern, interactive homework systems, such as Edfinity.
- 2019–2022 STAT 225 Introduction to Probability: Head Teaching Assistant, *Purdue University Department of Statistics, West Lafayette, Indiana*.
- 2017–2019 STAT 225 Introduction to Probability: Graduate Lecturer, *Purdue University Department of Statistics, West Lafayette, Indiana*.

- 2016–2017 STAT 301 Elementary Statistical Methods: Head Teaching Assistant, *Purdue University Department of Statistics*, West Lafayette, Indiana.
- Summer 2017 STAT 301 Elementary Statistical Methods: Graduate Lecturer, *Purdue University Department of Statistics*, West Lafayette, Indiana.
- 2015–2016 STAT 301 Elementary Statistical Methods: Teaching Assistant, *Purdue University Department of Statistics*, West Lafayette, Indiana.
- 2012–2015 Integral and Differential Calculus, College Algebra, & Mathematical Ideas: Teaching Associate, *California State University, Northridge Department of Mathematics*, Northridge, California.
- 2011–2012 Supplemental Instructor and Subject Area Tutor, *CSUN Learning Resources Center*, Northridge, California.

## Selected Awards & Recognitions

- 2024 Outstanding Reviewer Award, British Machine Vision Conference (BMVC)
- 2022 Teaching Academy Graduate Teaching Award, Purdue University
- 2020 Teaching Academy Graduate Teaching Award, Purdue University
- 2017 Outstanding Teaching Assistant Award, Purdue University
- 2015 Certificate of Outstanding Academic Achievement, CSU Northridge
- 2012 James R. Simpson Merit Scholarship, CSU Northridge

## Professional Development

- 2025 Participant, Purdue AI Academy, Inaugural Cohort. Week-long intensive professional development program on integrating AI into teaching and learning. Organized by the Innovation Hub, funded by Eli Lilly Foundation and the Provost's Office.
- 2025 Participant, Faculty Success Program, National Center for Faculty Development and Diversity (NCFDD), intensive training aimed at productivity and career advancement in academia.

## Mentoring

- 2025–Present Austin Hartman (Ph.D., Committee Member). NBA free throw biomechanics, computer vision, motion capture.
- 2024–2025 Junhee Lim (Undergraduate → M.S. in Computer Science, Purdue). NBA free throw biomechanics, computer vision, ML. Presented at Purdue Fall Undergraduate Research Expo (November 2025).
- 2025–Present Esha Setty (Undergraduate). 3D human body motion modeling, VR/XR research development.

## Media

- January 2026 Quoted in "Purdue's AI Bytes workshops hit 1,000 attendances milestone," Purdue Brian Lamb School of Communication/PBS.

## Computer skills

Programming Languages	Python ●●●●●	R ●●●●○	JavaScript ●●●●○	HTML/CSS ●●●●○	SQL ●●●●○	C++ ●●●●○	SAS ●●●●○
ML/AI Frameworks	PyTorch ●●●●○	TensorFlow ●●●●○	scikit-learn ●●●●○	OpenCV ●●●●○			
Web & Infrastructure	Flask ●●●●○	Sphinx ●●●●○	Git ●●●●○	Linux ●●●●○	Docker ●●●●○		
Platforms	Purdue GenAI Studio, RCAC HPC, GitHub Actions, AWS						

## Selected Projects

### STAT 350

#### Integrated Learning Ecosystem

- Developed a unified browser-first course platform integrating a Sphinx-based digital textbook (84 pages), interactive video learning platform with AI-powered pedagogical segmentation, three statistical simulations (CLT, confidence intervals, statistical power), and a procedures decision flowchart.
- Built and deployed LatticeAI, a course-constrained AI assistant using Purdue GenAI Studio's on-premises infrastructure, ensuring FERPA compliance and complete data sovereignty.
- Completed full WCAG accessibility audit and remediation, reducing automated violations from 4,509 to zero across all pages.

### NBA Free

#### Throw Biomechanics Analysis

- Leading a research program applying computer vision, pose estimation, and machine learning to analyze NBA free throw mechanics.
- Supervising development of video annotation platform, shooter identification models, shot-phase temporal segmentation, and GoPro-based motion capture systems.