

Putu Dhanu Driya – Academic CV

Information System Study Program, Faculty of Engineering and Vocational, Universitas Pendidikan Ganesha, Bali, Indonesia

Singaraja, Bali, Indonesia · +62 877 629 51844 · dhanu.driya@undiksha.ac.id

ORCID: [0009-0000-8828-8026](https://orcid.org/0009-0000-8828-8026) · Google Scholar: [Putu Dhanu Driya](#)

Research Interests

Human-Computer Interaction (HCI) · Human-AI Interaction and trust calibration · Cognitive psychology and cognitive biases in interface design · Visual semiotics and brand trust · Digital nudging · Usability evaluation and psychometrics · Explainable AI (XAI)

Research Statement

My research examines how interface design shapes human cognition and decision-making in interactive digital environments. I combine empirical HCI methods, cognitive psychology and quantitative modeling across three connected lines of work:

1. **Human-AI interaction and trust calibration.** How explainability cues, prior experience and cognitive load shape trust, reliance and independent verification when people use AI systems and large language models.
2. **Cognitive ergonomics, biases and digital nudging.** How choice architectures and biases such as anchoring, framing, loss aversion and the aesthetic-usability effect affect mental workload, autonomy and behavior in e-learning and social platforms.
3. **Usability evaluation and applied analytics.** Cross-cultural validation of psychometric instruments, classification of usability testing methods, and interpretable machine learning that makes algorithmic predictions transparent to decision-makers.

My training spans information systems (B.Comp.) and visual communication design (M.A.), giving me both engineering and design perspectives on user-centered, trustworthy AI.

Education

Ming Chi University of Technology, New Taipei, Taiwan

Master of Arts in Visual Communication Design, 2023 · GPA 4.26/4.3

- Best Graduate of the Visual Communication Design Department, 2023
- Coursework: User Experience Design, Cognitive Psychology, Creative Methods, App Design, Design Concern

Universitas Pendidikan Ganesha, Bali, Indonesia

Bachelor of Computer Science (Information System), 2022 · GPA 3.93/4.0

- Best Graduate of the Faculty of Engineering and Vocational, 2022
- Coursework: Human-Computer Interaction, Software Engineering, Statistics and Probability, Software Design

Publications

Human-AI Interaction and Trust

1. Dantes, G. R., **Driya, P. D.**, Pratiwi, P. Y., & Pradnyana, I. M. A. (2026). The impact of explainability cues on human trust calibration and fact-checking effort in large language model interfaces. *2026 IEEE 12th Information Technology International Seminar (ITIS)*, Denpasar, Bali. (N = 1,000 sessions across GPT-4, Claude, Gemini and Llama; OLS and binary logistic regression. Found a “citation paradox”: inline citations raised trust ($\beta = 0.808$) but lowered the odds of independent fact-checking ($OR = 0.710$); epistemic hedging reduced over-reliance, while generic disclaimers had no significant effect.) [Link](#)
2. **Driya, P. D.**, Sumerta, N. P. A. F., & Sandrina, M. S. A. (2026). How psychological factors shape user trust in AI across different application domains. *ARCHETYPE: Jurnal Ilmiah Psikologi & Terapan*. (N = 6,678 from a multi-study secondary dataset; $R^2 = .257$. Prior trust history was the strongest predictor ($\beta = .485$); cognitive load reduced trust ($\beta = -.151$).) [Link](#)

Cognitive Biases, Interface Perception, Workload and Digital Nudging

3. **Driya, P. D.** & Yanti, P. D. A. (2026). Visual semiotics in interface design: How UX elements communicate brand trust to users. [*journal name to be confirmed*]. [Link](#)
4. **Driya, P. D.**, Fang, Y.-Q., & Yuliastiti, L. P. S. (2025). Impact of cognitive bias in UI design on e-learning cognitive load. *Indonesian Journal of Computing, Engineering, and Design (IJoCED)*, 7(2). (Counterbalanced within-subjects experiment, NASA-TLX, repeated-measures ANOVA; $F(2, 18) = 12.44$, $p < .001$, partial $\eta^2 = .58$. Aesthetic-usability interfaces produced the lowest workload and anchoring interfaces the highest.) [Link](#)
5. **Driya, P. D.**, Sumerta, N. P. A. F., & Diputra, I. G. N. A. S. (2025). How interface design nudges Instagram users toward posting less permanent content. *Smart Techno (Smart Technology, Informatic, and Technopreneurship)*. (N = 347 Gen Z users; PROCESS Model 4 parallel mediation. Nudges predicted biases and self-presentation concerns, but indirect effects were non-significant; the direct effect was significant.) [Link](#)

Usability Evaluation and Psychometrics

5. **Driya, P. D.**, Dantes, G. R., Pratiwi, P. Y., Pradnyana, I. M. A., & Yuliastiti, N. L. P. S. (2026). Development of an Indonesian version of the Post-Study System Usability Questionnaire (PSSUQ) for UX evaluation. *Indonesian Journal of Information Systems (IJIS)*, 8(2). (Two-stage cross-cultural adaptation with pilot testing ($n = 20$) and psychometric validation ($n \geq 80$); I-CVI/S-CVI, Cronbach’s alpha, EFA, CFA, AVE, CR.)
6. **Driya, P. D.**, Pradnyana, I. M. A., Pratiwi, P. Y., & Dantes, G. R. (2025). Classifying usability testing methods: A comparative study of real apps and prototype versions. *Nineteenth International*

Conference on Design Principles & Practices, Lasalle College of the Arts, Singapore; journal manuscript (Common Ground Scholar). (Systematic review of 14 usability testing methods.) [Link](#)

7. **Driya, P. D.**, Dantes, G. R., Pradnyana, I. M. A., & Pratiwi, P. Y. Examining the influence of UX expertise on usability problem detection in e-learning interfaces. *Journal of Information Science and Engineering (JISE)*, Taiwan. (Task-based usability testing and retrospective think-aloud with five UX-aware and five non-UX participants.)

Applied Machine Learning and Explainable AI

8. **Driya, P. D.**, Wahyuna, I. M. D., & Diputra, I. G. N. A. S. (2026). Predicting concrete compressive strength: A machine learning approach using random forest and partial dependence analysis. *3rd International Conference of Fundamental and Applied Research (I-CFAR 2026)*; prepared for *Rekayasa Sipil*. (N = 1,030; random forest $R^2 = 0.9118$, RMSE = 5.02 MPa, outperforming SVR and gradient boosting; global PDP and local SHAP explanations.)

Manuscripts in Preparation

9. **Driya, P. D.**, Pradnyana, I. M. A., & Dantes, G. R. Designing decisions: How cognitive biases influence user perceptions and choices in digital interfaces. Manuscript draft for *Human Technology* (2024). (Qualitative case study: observational usability testing and semi-structured interviews on anchoring, framing, social proof and Von Restorff cues.)
10. **Driya, P. D.**, Pradnyana, I. M. A., & Arthana, K. R. Cognitive bias and UX: Turning psychological tendencies into design strengths. Conceptual study draft for IJoCED.

Research Methods and Technical Competencies

- **Experimental and qualitative UX research:** within-subjects experiments, task-based usability testing, retrospective and concurrent think-aloud, heuristic evaluation, cognitive walkthroughs, semi-structured interviews.
- **Psychometrics and workload assessment:** cross-cultural instrument translation and validation, NASA-TLX, PSSUQ, Content Validity Index, exploratory and confirmatory factor analysis.
- **Statistical modeling:** OLS regression, binary logistic regression, parallel mediation (PROCESS Model 4), repeated-measures ANOVA, Mauchly's sphericity test, Pearson correlation.
- **Machine learning and XAI:** random forest, gradient boosting, support vector regression, k-fold cross-validation, grid search, partial dependence plots, SHAP.
- **Tools:** Python (statsmodels and machine learning libraries), SPSS, Figma, HTML/CSS, Google Workspace, Microsoft Office.

Professional and Teaching Experience

English Teacher, Siki Language Center, Bali, Indonesia (Sep 2023 – Sep 2025)

- Taught customized English lessons to Japanese students at varying proficiency levels.
- Developed individual learning plans covering conversation, grammar, vocabulary and pronunciation.

- Used interactive teaching strategies to improve engagement and retention.

UI/UX Designer (Intern), PT. Mitra Insan Global, Jakarta, Indonesia (Apr 2021 – Aug 2021)

- Took part in user research (interviews, surveys, usability testing) to understand pet owners' needs and pain points.
- Built wireframes and interactive prototypes from user insights and iterated them on user and stakeholder feedback.

English Teacher Assistant (Intern), International Center of English Excellence, Bali, Indonesia (Jul–Aug 2021, Jul–Sep 2022)

- Helped plan and run interactive online sessions.
- Gave one-on-one guidance tailored to individual learning styles.

Honors and Awards

- Best Graduate, Master of Arts in Visual Communication Design, Ming Chi University of Technology (2023)
- Best Graduate, Faculty of Engineering and Vocational, Universitas Pendidikan Ganesha (2022)

Selected Projects

- **E-learning UI design for MCUT, Taiwan** (Dec 2022 – Jun 2023): designed interface concepts, wireframes, high-fidelity prototypes and interactive flows to improve learning engagement.
- **Interactive AR brochure, MCUT – Tzu Chi University** (Apr 2023): collaborated on designing and developing a brochure with augmented reality features.
- **English teaching project for Taiwanese high school students** (Feb 2023): designed lesson materials and taught an intensive one-week program.

Languages

- English: C1 proficiency; TOEIC score 890
- Mandarin: H1 proficiency