Yan Wang

MLE/ Product Manager

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Machine Learning Engineer | AI in Education & HCI |

Former Product Manager · Researcher · Trainer · Math Teacher

EDUCATION

Carnegie Mellon University | *Aug 2024 – Aug 2025*

• Master of Educational Technology and Applied Learning Sciences (METALS), HCI, SCS

• Coursework:

11-777 Multimodal Machine Learning
11-685 Intro to Deep Learning
11-601 Intro to Machine Learning,
18-613 Intro to Computer Systems
05-617 Design of AI Products
05-660 Interaction Design for Human-Computer Interaction
05-680 Independent Study for HCI
05-840 Tools for Online Learning
05-681 METALS Capstone
05-823 E-Learning Principles
05-738 Evidence-Based Educational Design

Hebei University of Economics and Business | *Sep 2011 – Jul 2015*

• Bachelor of Arts in Radio and Television Journalism

PROFESSIONAL EXPERIENCE

Mrs Wordsmith - Word Tag

Researcher Internship | *Spring–Summer 2025*

• Conducted competitive analysis and literature review combining team's data analysis results to propose evidence-based product iteration recommendations in the Efficacy Study project.

• Co- designed Onboarding Diagnostic Games and Word Fair Mini-games on game concept, game flow, adaptive logic, distractor design and feedback mechanisms; Conducted literature review to inform detailed design specifications.

• Developed the user testing plan and authored post-playtest analysis reports, identifying key usability problems and proposing prioritized design refinements.

• Served as the primary writer for two comprehensive design guides (Diagnostic Test and Word Fair), emphasizing clarity, accessibility, and modular structure to support client understanding of our design rationale and solutions.

AiShang AI – Beijing Jiezuxiandeng Education Technology Co.

UXR/ TPD | *Apr 2020 – Aug 2023*

•Led the team of 3 planning and executing 200+ user experience research (interviews, surveys, classroom observations, and think-aloud usability tests).

• Leveraged Python(Pandas) to conduct quantitative user experience analysis combining with qualitative and to identify product friction points, and opportunity areas. Authored report and iteration plans, drove cross-functional reviews with Curriculum, Product, and Engineering.
• Led teacher PD for a nationwide K–12 math network; Delivered training assets and ongoing PD training to 2,000+ franchise teachers via weekly virtual and monthly in-person sessions. led a 3-day Math Track at the Beijing Teacher Training Conference for 300+ educators.

AiShang AI – Beijing Jiezuxiandeng Education Technology Co.

Product Manager | *Apr 2019 – Apr2020*

• Collaborated with a team of 3 on building an AI-powered K–12 mathematics learning ecosystem (Learner Platform, Teacher Dashboard)
• Delivered personalized learning pathways via an AI-driven content recommendation system, adaptive practice/difficulty, and spaced-repetition scheduling, with interactive problem-solving and instant formative feedback to support mastery progression.
• Co-designed teacher dashboard by data-informed instruction with real-time progress & mastery analytics, assignment/quiz authoring, auto-grading & targeted feedback, and class/roster management to streamline classroom workflows.
• Developed the mathematics hybrid teaching model and promoted it in the branch schools.

Xueda (XIAMEN) Education Technology Group Co., Ltd.

Math Teacher & Curriculum Developer | *Aug 2015 – Apr 2018*

• Taught mathematics across multiple grade levels; cultivated students' strong interest in math, contributing to an around 50% referral rate.
•Authored and compiled problem-solving workbooks covering key problem types and strategies; helped students connect concepts, apply flexible methods, and build confidence. 95% of students improved on school exams.
• Mentored new teachers on onboarding, lesson planning, classroom management.

PROJECT EXPERIENCE

Multimodal Reasoning in Math Geometry

CMU 11-777: Multimodal Machine Learning| *Spring 2025*

• Synthesized recent literature and benchmark datasets to identify key reasoning failures in VLMs.
• Co-designed a planner–VQA–reasoner pipeline where the model actively queries diagrams for missing facts; this approach doubled description quality scores and boosted final answer accuracy to 40%, outperforming baselines using larger LMs alone.

Latent Denoising Diffusion Probabilistic Models

CMU 11-685: Intro to Deep Learning | *Fall 2024*

• Reviewed literature on DDPM, DDIM, VAE, and CFG to analyze trade-offs in image generation quality, inference speed, and controllability; set up the ImageNet-100 benchmark and co-designed standardized preprocessing pipelines.
• Co-implemented multiple generation pipelines and noise schedulers; through quantitative analysis, found that DDIM reduced inference time, VAE significantly lowered training cost, and CFG enabled controllable generation, collectively improving the efficiency and flexibility of diffusion models for practical use.

Diagnostic & Vocabulary Assessment Game Design for Word Tag

CMU: METALS Capstone Project | *Spring–Summer 2025*

• Led the instructional content strategy for a vocabulary assessment game, designing research-informed diagnostic tasks to evaluate learner knowledge and progression.
• Developed the user testing plan and authored post-playtest analysis reports, identifying key usability and instructional challenges and proposing prioritized design refinements.
• Served as the primary writer for two comprehensive design guides (Diagnostic Test and Word Fair), emphasizing clarity, accessibility, and modular structure to support client understanding of our design rationale and solutions.

Math Village: An Engaging Math Learning Platform for Teens

CMU: Tools for Online Learning Course | CMU, METALS | *Spring 2025*

• Independently led the end-to-end design of Math Village, from user flow and module structure in Figma to full HTML/CSS/JavaScript implementation on GitHub.
• Designed platform features grounded in learning science, including a built-in math-specialized LLM assistant for real-time Q&A; prioritized clarity, autonomy, curiosity, and consistency to address adolescent learning needs and the challenges of online math engagement.

Learning Tools & Course Design Prototypes

CMU: Tools for Online Learning Course | *Spring 2025*

• Designed interactive course prototypes using H5P, Articulate 360, Adobe Captivate, and Voiceflow, leveraging each tool's affordances to build multimedia instructional materials with integrated formative assessments and real-time feedback.

AI for Educators: Bringing Generative AI to Middle School Classrooms

CMU: E-Learning Principles Course | *Fall 2024*

• Co-designed a self-paced online course for middle school teachers on using generative AI, aligning learning outcomes with Bloom's taxonomy and practical classroom needs.
• Structured course content, learning activities, and evaluation strategies to enhance instructional clarity, teacher engagement, and real-world applicability.

Big Ideas Synthesis: Evidence-Based Instructional Strategies

CMU: Evidence based educational learning course | *Fall 2024*

• Collaboratively developed a comprehensive instructional design reference guide for educators, synthesizing evidence-based learning strategies such as cognitive load management, effective feedback, and scaffolding.

Beijing Teacher Training Conference – Math Track Design & Facilitation

Ai Shang AI | *Oct–Dec 2020*

• Led the end-to-end instructiona design and facilitation of a 3-day math teacher training conference for 300+ educators, including content planning, interactive workflows, and presentation materials.
• Served as lead trainer for the full event, delivering sessions and facilitating real-time Q&A and discussion activities.

Professional Development for Teachers

Ai Shang AI | *Jan–Jun 2020*

• Designed and developed 10+ teacher training courses (slides, scripts, recordings) for the internal Teacher Management Platform, covering topics such as math lesson planning, dashboard navigation, and

personalized instruction.
• Supported scalable teacher onboarding and ongoing training through platform-integrated instructional content, iteratively refined based on educator feedback and feature updates.

Branch School Instructional Support & Field Research

Ai Shang AI *| Jul–Aug 2019*

• Conducted on-site visits to 10+ partner schools across China to observe instructional implementation and provide localized teaching support.
• Collected and synthesized teacher feedback on curriculum design and platform usability; authored a field report identifying key instructional and UX pain points.
• Led cross-functional debriefs with product, curriculum, and engineering teams to inform iterative improvements to instructional content and platform features.

Mental Health Course Development

Independent Study for HCI | CMU, METALS *| Spring 2025*

• Independently led the end-to-end instructional design of a digital support course. Conducted extensive literature review and benchmarking of psychological interventions to inform evidence-based content development. Translating complex psychological theory into accessible, actionable, and empathetic learning content tailored to real-life challenges.

SKILLS

Instructional Design & Technical Tools: C++, Python, HTML/CSS, Tableau, Overleaf (LaTeX), Figma, Articulate 360, Adobe Captivate, H5P, Voiceflow,