LIBRAI: Liberating Libraries through Generative Artificial Intelligence Incubator Program

Introduction: The libraries of Virginia Tech (VT, project lead) and the University of California, Riverside (UCR) respectfully request $149,886 from the IMLS LB21 Program for a two-year planning project. We will launch a Generative Artificial Intelligence (GenAI) Incubator Program to address the challenge of limited AI adoption in university libraries. Aligned with LB21's Goal 3 and Objectives 3.1 and 3.3, our program aims to advance professional development and elevate the professional capabilities of librarians, facilitating the seamless integration of GenAI into their roles and work environments. Intended project outcomes include training materials, workshops, and capstone projects specific to four library themes: AI Literacy, Collection, Preservation, and Research. These will be showcased in a virtual symposium to facilitate the program's widespread adoption and dissemination.

Project Justification: As AI technologies become widely adopted, the unrealized potential within academic libraries remains substantial. Although library professionals recognize the transformative capabilities of AI, existing educational materials often contain prerequisites that are not aligned with their diverse educational backgrounds, posing a significant barrier to effective AI integration. The recent advancements in GenAI, including large language models and foundation models, offer library professionals new avenues to advance their knowledge base and evolve their institutions' services and engagement strategies. To address the educational shortfall and challenges to AI adoption among university libraries, we propose the GenAI Incubator Program. VT PI Chen and UCR Co-PI Xie together have decades of relevant experience, including teaching AI to diverse audiences, running IMLS-funded LB21 educational programs, and AI-enabled library research, development, and staff upskilling. The proposed program will equip and enable librarians to confidently evaluate, use, extend, and implement AI-enabled applications that complement and enhance their skills and expertise. As a result, librarians can raise the quality and productivity of their work, contribute to highly impactful campus missions and goals, and improve patron experience.

We will develop a project-driven workshop curriculum, and training materials to enhance library professionals' understanding of GenAI in program-specific library themes – encompassing library general administrative and outreach tasks. The curriculum will employ active and experiential learning methods, first establishing a foundation in GenAI fundamentals and then progressing to apply that learning through hands-on exercises. These activities will range from guided demos to self-directed tasks and group projects. In the area of AI literacy, we will show how GenAI can provide personalized learning experiences covering AI concepts, ethics, limitations, and applications. For collection management, we will teach how to use GenAI to assist in metadata generation and enhancement. In preservation, we will explain how GenAI can assist in digitizing, categorizing, and conducting predictive analysis for resource management. Regarding research, we will guide participants in evaluating GenAI research tools, and equipping them with the skills needed to assist AI-enabled research projects. The training will be a multi-day workshop, supplemented by follow-up consultation office-hours for ongoing support. Participants will have access to additional materials, including customizable case studies, presentation slides, and activity templates for future training.

Proposed Work Plan: This program will curate training materials (including some from our interviews of professionals from related fields) to provide essential foundational knowledge for developing AI applications within these key themes. A diverse advisory board comprising 7 members, including senior library administrators and experts on AI pedagogy, AI ethics, and DEI, will steer and support the program. Two confirmed members are as follows: (1) Edward A. Fox, Professor in the Department of Computer Science at VT, specializes in active learning and has overseen over 250 capstone projects. (2) Bill Ingram, Associate Dean at VT Libraries, brings expertise in library IT operations, archives, and ethical

AI. The Co-PIs and advisory board will meet twice yearly to review the curriculum, evaluate teaching methods, scrutinize workshops, and assess capstone project outcomes. Additionally, we will invite AI experts as speakers.

Year 1: (1) Workshop and Curriculum Development (August 2024 – January 2025): PI Chen will develop training materials and design capstone projects. Co-PI Xie will evaluate these materials for alignment with the program's focus areas and provide guidelines on workshop logistics. *(2) Piloting Workshops and Capstone Projects (January 2025 - May 2025):* We will lead multi-day, synchronous workshops at VT and UCR to field test the training materials. After these workshops, participants will begin their capstone projects. We will offer online consultation hours for ongoing guidance and project oversight. We anticipate that each participant will create two AI-enabled services during this phase. *(3) Program Evaluation and Refinement (May 2025 - Aug 2025):* We will use data from recorded sessions, surveys, and participant feedback to evaluate the curriculum and workshops. The advisory board will review these findings and provide expert input on curriculum refinement, collaboration facilitation, and long-term strategy. Workshop outcomes and capstone project results will be disseminated at the ALA Annual Conference in June 2025.

Year 2: (1) Workshop and Curriculum Refinement (Aug 2025 - January 2026): The PI will begin developing an online workshop. We will recruit a VT Ph.D. student as a Graduate Assistant (GA) in the Library to assist in converting workshop training materials into a series of online asynchronous courses. *(2) National Workshops and Capstone Projects (January 2025 - May 2026):* We will lead four virtual workshops hosted in strategically selected universities - VT for Virginia and the D.C. area, UCR for the UC system, UIUC for the Midwest, and UNT for the South - to engage key regions and enable broad geographic participation. Participants will work on capstone projects centered around the 4 themes. We will provide continuous mentorship and support to ensure the completion of these projects. *(3) 1st LIBRAI Symposium (June 2026):* This one-day virtual event will showcase the program's transition from AI training to library implementation. The event will feature capstone projects, panel discussions, and AI expert talks. The symposium will conclude with an awards ceremony. *(4) Dissemination (June 2026 - August 2026):* All project materials will be available on the program website. Program results will be presented at LIS conferences and published in journals. Participants are encouraged to demonstrate and present their capstone projects at their respective institutions to promote the program.

Diversity Plan: VT is an [Asian American and Native American Pacific Islander-serving Institution](#) and has partnerships with Historically Black Colleges and Universities. VT Libraries maintains long-term partnerships with [Inclusive VT](#), Cultural, Community Centers, and employee Caucuses. UCR is the nation's top public university for social mobility and Hispanic enrollment. Together, we will commit to actively recruiting a diverse participant base, inclusive curriculum vetting, and accessibility measures. Collaboration with our team, partners, and advisory board ensures diverse representation in content, perspectives, and cited sources from scholars and experts from diverse identities, including racial and ethnic diversity, age, LGBTQ+, gender identity, and scholars with disabilities. The program's curated materials will also be supplied to [VT Black College Institute](#) and [Black Engineering Excellence at Virginia Tech](#). We will include representational diversity in images or graphics. These specific actions ensure that our curriculum and outreach initiatives are tailored to meet the diverse needs and challenges faced by library professionals from all backgrounds.

Project Results: Results will include improved AI literacy and skills among participants, practical AI prototypes and services, and a heightened interest in AI innovation within the library community. Project deliverables will be shared through publications, presentations, and open-access online resources, making them accessible and adaptable for other institutions and communities seeking to embrace AI technologies in library settings.

Budget Summary: The estimated budget is $149,886. Direct costs include a PI salary of $6,259 during project years, a Graduate Assistant salary with tuition of $42,923 for the second year, and Fringe Benefits of $4,614. Subaward to UCR is $26,678. Travel costs are $4,200, Advisory Board and speakers honoraria are $16,000, and indirect costs are $49,212.