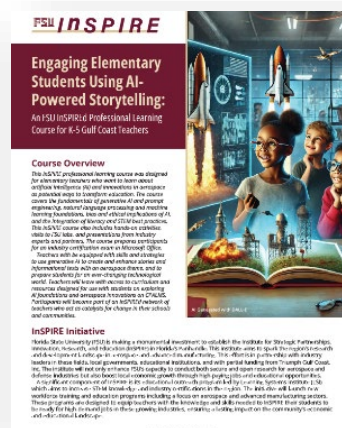


Nominee's Personal (Team) Statement:

Creating the Vision

When we were first challenged with the aspirations of FSU's InSPIRE initiative and the regional and systemic change that it could bring, we were excited to tackle the mission. While we have always exemplified an innovative spirit at LSI, incorporating innovations like 3D printing into classrooms before it was popular and developing new ways to create computer based formative assessment for Prek-2 in ELA and Math, the InSPIRE initiative presented a more captivating challenge. AI was a relatively new topic in national news, yet little was being done to coach teachers how to leverage it productively, ensuring alignment to curriculum as well as to remove the "magical" facade AI embodies to the non-computer scientist. Upon receiving the grant in April, our team elected to develop the first course and run a pilot in July, adhering to a tight timeline. We decided it was necessary to not only meet the grant's metric of increasing teacher industry certifications, but to also ensure teacher's skills would be transferable to the classroom, enabling systemic change and creating a sustainable support system for teachers to implement innovative pedagogical ideas and "inspire" their students to meet the demands of an ever-changing workforce landscape.

We are encouraged to know the FSU InSPIRE Generative AI Learning Pathway has become a transformative initiative that is reshaping the way educators engage with artificial intelligence in the classroom. As educators ourselves committed to fostering innovation, we have dedicated our efforts to bridging the gap between generative AI applications, research-based pedagogy, and real-world workforce needs. Through the development of the AI Pathway: Engaging Elementary Students Using AI-Powered Storytelling and Prompt Engineering for Engineering Design Pedagogy, our team has created a unique approach to professional learning that equips teachers and ultimately their students with cutting-edge AI literacy and critical, future-ready skills.



Innovative Course Design & Approach

The FSU InSPIRE Generative AI Learning Pathway is unlike any other teacher professional learning program. Our courses build foundational skills that embed hands-on AI tools, generative AI strategies, industry certifications and aerospace innovations into a dynamic, research-backed professional learning model that also emphasizes best-practices in STEM pedagogy.

We wanted teachers to grasp the fundamentals of Large Language Models (LLM), Natural Language Processing (NLP) and Machine Learning (ML) before using them within Generative AI models, fostering deeper comprehension and critical engagement. We connected how students acquire language/reading skills to LLM and NLPs, and we connected the predictive nature of generative AI to mathematical concepts like analyzing data and using probability distributions. We provided activities for teachers to learn how to train a computer through ML and experience firsthand the bias that can be introduced based on the pre-trained data that is used in LLM models. This illustrated the need for critically consuming AI and its ethical use. Once teachers built this foundation, they were ready to leverage generative AI through prompt engineering to learn how to create their own resources.



Participants not only learn AI concepts but also apply them to create interactive digital e-readers and open-ended engineering design lessons called Model Eliciting Activities (MEAs) for their students. These two types of resources fit seamlessly with industry certifications in Microsoft Office Word and PowerPoint, ensuring teachers have the digital skills necessary to showcase the integration of all the course content. Building capacity in these areas led to implementation in each teacher's classroom, directly affecting student engagement and experiences.

While there were several obstacles and constraints to address with the InSPIRE initiative, our team worked to ensure we addressed several of these, including the lack of on-grade level texts for students to read and learn about aerospace and advanced manufacturing innovations. Additionally, textbooks lack the open-ended real-world tasks like MEAs can provide. Recognizing these existing constraints, we designed the courses to empower teachers to independently develop AI-driven educational resources, ensuring sustainability beyond the program.

As we work to inspire teachers to rethink their approaches to instruction, integrating STEM and preparing students for high-skill STEM careers coming to the region, it is necessary for a key pillar of our work to be the integration of real-world applications through partnerships with industry experts like Microsoft, Lockheed Martin, General Electric Vernova, and FSU's FCAAP and HPMI. These collaborations provide direct insight into industry needs and ensure that our program aligns with 21st-century workforce expectations, providing teachers with field experiences and connections to researchers, engineers and experts. Our team realized that if we want teachers to expose their students to STEM opportunities, they needed to be educated themselves on emerging STEM careers and pathways. We were happy to help fill this gap during our courses, beginning to reimagine what quality STEM and Workforce Development professional learning would look like in the region, and then as a state and national model for innovation spurring economic growth.



Direct Impact on Teachers & Students

This initiative is producing measurable, statistically significant gains in teacher knowledge of AI, natural language processing, and machine learning. Pre/post assessments indicate that teachers dramatically improve their confidence and competency in AI-driven pedagogy. The pilot cohort primarily identified themselves as reading/literacy teachers, yet their STEM Identity Perceptions showed large shifts from pre to post course completion. This demonstrates that with effective and integrated approaches to professional learning, more than just STEM teachers can see themselves influencing STEM education and workforce development through implementing AI in their classes.

A few teachers have shared their thoughts:

"Through FSU's Inspire program, I've discovered how AI can be an invaluable collaboration partner, transforming the way I approach teaching. This program has empowered me to enhance my creativity and efficiency when designing lesson plans and generating student resources. I now have access to innovative tools that allow me to offer more diverse and tailored activities, meeting each student's unique needs and abilities. The skills I've gained through INSPIRE have enabled me to deliver more impactful learning experiences for my students. Thank you so much for all that you do to help us grow as educators!" – Michelle Barlow Library Media Specialist Santa Rosa County

"Exploring AI Prompt Engineering to create a Model Eliciting Activity for students not only enhances students' problem-solving skills but also ignites their curiosity about technology, preparing them for a future where creativity and critical thinking go hand in hand." – Anna Prindle, 5th Grade Teacher at Holley-Navarre Intermediate School.

Additional participants' thoughts are captured in local media and a few videos:

- <https://www.youtube.com/watch?v=K2wmp6NGDGw&t=57s>
- <https://weartv.com/news/local/northwest-florida-teachers-tackle-challenges-and-opportunities-of-ai-in-classrooms>
- <https://lsi.fsu.edu/article/fsu-inspire-and-microsoft-partner-offer-artificial-intelligence-professional-learning>
- <https://lsi.fsu.edu/article/fsu-inspire-and-microsoft-partne-offer-artificial-intelligence-professional-learning>

Research-Based & Scalable Approach

Our approach ensures that K-12 education aligns with workforce demands, preparing students for high-paying careers in AI, aerospace, and advanced manufacturing. Through our online platform, CPALMS, teachers access standards-aligned AI curriculum that can be immediately implemented in classrooms, ensuring that AI literacy is not just a one-time training but a sustainable, evolving practice. This program is deeply rooted in research-based best practices. We leverage MEAs, inquiry-based learning, and the development of learning communities through the creation of InSPIREd schools that can build a micro-support system within schools as a subset of the FSU InSPIRE support system.

Furthermore, the scalability of this model is a key strength. By creating a blended learning experience (both virtual and in-person), our program will be expanded across the panhandle this summer to include secondary teachers. Then, upon further success, we will expand nationally and internationally to reach educators in diverse regions. Beyond its immediate impact on teachers and students, the FSU InSPIRE Generative AI Learning Pathway serves as a blueprint for integrating AI into teacher education programs nationwide. As AI continues to transform education, this model provides a roadmap for institutions looking to embed AI literacy into K-12 pedagogy, ensuring that future generations of educators and students are prepared to thrive in an AI-driven world. Plans are underway to develop additional AI-driven courses for computational thinking, robotics, rapid prototyping and data mining.

Closing Thoughts

LSI is an advocate for innovation in education. We are deeply proud of the impact this program has already made and excited about its potential to reshape AI-driven learning at the state level and beyond. We feel that our InSPIRE Generative AI Learning Pathway is a comprehensive professional learning program designed to bring systematic change to teacher education with just 55 hours of instruction. While many professional learning programs focus on integrating technology, the FSU InSPIRE Generative AI Learning Pathway is the first of its kind to systematically incorporate Generative AI, prompt engineering, industry certification and real-world aerospace applications into K-12 teacher training, setting a new standard for professional learning and providing educators with the knowledge and tools necessary to prepare students for future careers.

Thank you for the opportunity to share this work, and we appreciate your consideration for the Ralph Stair Prize in Innovative Education.



Jim Reynolds



Zaida McGinley



Robert Hanna



Carrie Meyers

Learning Systems Institute's InSPIRE Education and Workforce Development Team