

LFIR # 1312

1. Project Title University of Florida - AI Digital Twins Service Corps

2. Senate Sponsor Jason Brodeur

**3. Date of Request** 11/14/2023

### 4. Project/Program Description

To build the technological and educational capacity to create digital twins, a type of artificial intelligence program where a physical object or system is simulated in an electronic environment with sufficient detail that experiments can be conducted and insights be drawn. Once created, a digital twin can simulate millions of scenarios in seconds to optimize solutions, identify anomalies, and find and resolve problems. Currently, companies use digital twins for medical research, physical system maintenance, and many other use cases.

### 5. State Agency to receive requested funds

Board of Governors

State Agency contacted? Yes

### 6. Amount of the Nonrecurring Request for Fiscal Year 2024-2025

Type of Funding	Amount
Operations	8,070,000
Fixed Capital Outlay	0
Total State Funds Requested	8,070,000

7. Total Project Cost for Fiscal Year 2024-2025 (including matching funds available for this project)

Type of Funding	Amount	Percentage
Total State Funds Requested (from question #6)	8,070,000	100%
Matching Funds		
Federal	0	0%
State (excluding the amount of this request)	0	0%
Local	0	0%
Other	0	0%
Total Project Costs for Fiscal Year 2024-2025	8,070,000	100%

### 8. Has this project previously received state funding? No

Fiscal Year	Amo	Amount		Vetoed
(уууу-уу)	Recurring	Nonrecurring	Appropriation #	

### 9. Is future funding likely to be requested?

Yes	
2,000,000	

a. If yes, indicate nonrecurring amount per year.

### b. Describe the source of funding that can be used in lieu of state funding.

N/A

### 10. Has the entity requesting this project received any federal assistance related to the COVID-19 pandemic?

Yes



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### If yes, indicate the amount of funds received and what the funds were used for.

Revenue: \$76M Direct Student Aid & \$93M Institutional Support;Expenses:1) \$76M-Direct Student Aid;2) \$93M-Campus Operations:\$8.7M for IT Infrastructure & Equipment for Remote/Distance Learning; \$9.4M for Housing/Study Abroad; \$9.1M Campus Health/Safety \$8.2M Other Operating/Research costs: Student mental health/basic needs;\$57.6M for Lost Revenues in the student union, educational business activities, parking, research service centers, museums/performing arts centers.

### **Complete questions 11 and 12 for Fixed Capital Outlay Projects**

- 11. Status of Construction
  - a. What is the current phase of the project?

🔘 Planning	🔘 Design	Construction	🔵 N/A
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b. Is the project "shovel ready" (i.e permitted)?

c. What is the estimated start date of construction?

d. What is the estimated completion date of construction?

12. List the owners of the facility to receive, directly or indirectly, any fixed capital outlay funding. Include the relationship between the owners of the facility and the entity.

No

### 13. Details on how the requested state funds will be expended

Spending Category	Description	Amount
Administrative Costs:		
Executive Director/Project Head Salary and Benefits		0
Other Salary and Benefits	This project will fund eight full time staff members, two faculty, and several research assistants.	2,070,000
Expense/Equipment/Travel/Supplies/ Other		0
Consultants/Contracted Services/Study		0
Operational Costs: Other		
Salary and Benefits		0
Expense/Equipment/Travel/Supplies/ Other	This will fund a system to supporting building Digital Twins. The system includes 48 nodes with 4 NVIDIA L40 GPUs each, a VMware cluster including VMware software licenses, and a 1 PB all-flash storage system.	6,000,000
Consultants/Contracted Services/Study		0
Fixed Capital Construction/Majo	r Renovation:	
Construction/Renovation/Land/ Planning Engineering		0
Total State Funds Requested (m	ust equal total from question #6)	8,070,000

### 14. Program Performance

a. What specific purpose or goal will be achieved by the funds requested?



Through these funds, the University of Florida will have the capacity to build Digital Twins for a variety of systems, including those specific to Florida, and conduct digital-first experiments.

### b. What activities and services will be provided to meet the intended purpose of these funds?

In addition to training the next generation of Florida's workforce on cutting edge technology, the University of Florida will be able to simulate and derive specific insights into complicated systems, including those specific to Florida such as environmental systems, transportation infrastructure, utility alignment, and medical uses.

#### c. What direct services will be provided to citizens by the appropriation project?

Digital Twins will help make complex systems more efficient and better understood, including many systems that Floridians depend upon each day. In addition to these long term expectations, the next generation of Floridians will learn how to use and leverage cutting edge artificial intelligence platforms for public benefit.

#### d. Who is the target population served by this project? How many individuals are expected to be served?

The project has three main audiences - researchers who will gain insights, students would will gain valuable experiences, and the Florida citizenry at large will stand to benefit from the insights generated using these new technologies.

# e. What is the expected benefit or outcome of this project? What is the methodology by which this outcome will be measured?

Digital Twins hold a lot of promise, and measurable benefits include the number of students taught, number of actionable insights gained, and the new scientific breakthroughs realized through this program.

f. What are the suggested penalties that the contracting agency may consider in addition to its standard penalties for failing to meet deliverables or performance measures provided for the contract?

Milestones are defined associated with payments and penalties.

#### **15. Requester Contact Information**

a. First Name	Joe	Last Name	Glover
b. Organization	University of Florida		
c. E-mail Address	glover@ufl.edu		
d. Phone Number	(352)226-2037	Ext.	

### **16. Recipient Contact Information**

a. Organization University of Florida

**b. Municipality and County** Alachua

### c. Organization Type

□For Profit Entity

□Non Profit 501(c)(3)

□Non Profit 501(c)(4)

□Local Entity

☑ University or College

□Other (please specify)



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d. First Name	Chris Last Name Emmanuel	
e. E-mail Address	chris.emmanuel@ufl.edu	
f. Phone Number	(850)933-1223	
7. Lobbyist Contact Information		

### 17.

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