C3.ai Digital Transformation Institute

C3.ai DTI's mission is to attract the world's leading scientists to join in a coordinated and innovative effort to advance the digital transformation of business, government, and society.

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C3.ai

Microsoft

ILLINOIS

Carnegie Mellon University

Berkeley UNIVERSITY OF CALIFORNIA

Massachusetts Institute of Technology

PRINCETON UNIVERSITY

THE UNIVERSITY OF CHICAGO

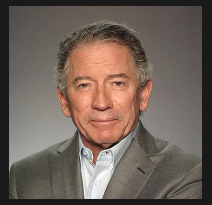
NCSA

BERKELEY LAB
Lawrence Berkeley National Laboratory

C3.ai Digital Transformation Institute

C3.ai DTI Governance

Advisory Board



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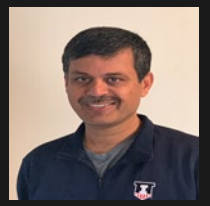
Chairman and CEO
C3.ai

Eric Horvitz
Chief Scientist,
Microsoft



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C3.ai DTI Co-director
Former Dean of Engineering, Professor of Electrical Engineering and Computer Science
UC Berkeley

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Professor of Electrical Engineering and Computer Sciences
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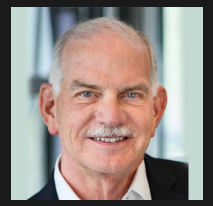

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Campus Lead
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Dean of the College of Engineering
Carnegie Mellon University

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C3.ai DTI Programs Overview

01 Research Awards

02 Visiting Professors & Scientists

03 Curriculum Development

04 Data Analytics Platform

05 Educational Program

06 Industry Program

07 Open Source

C3.ai Digital Transformation Institute

01

C3.ai DTI Research Awards

Bi-annual call for research proposals

Purpose: To advance the science of digital transformation

Reviewed and awarded by university leads

Up to 26 research awards granted each year

- (2) $500,000 awards
- (16) $250,000 awards
- (8) $100,000 awards

Awards will be for 12 months in duration

Multidisciplinary and multi-institution projects will be favored

Recipients encouraged to conduct breakthrough research and to pursue and establish larger research projects with federal and other funding sources

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C3.ai DTI Data Analytics Platform

An elastic cloud, big data, development and operating platform

Supports C3.ai DTI research, curriculum development, and classwork

Conduct research on the development of AI/ML algorithms, data security techniques, and cyber security methodologies

Provides access to C3 AI Suite Software

Proposals that use the C3.ai Suite on Microsoft Azure will be favored

Microsoft Azure
Resources Available

$2,000,000 per year in Microsoft Azure compute capacity

Cloud Infrastructure to support 180 researchers

- Compute
- Storage
- All Azure services

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Open Source

The following practices are preferred:

- Researchers publish during the award period in publicly accessible repositories and more generally in the open literature
- Algorithms and software be made publicly available as open source for the public good.
- Due to the rapidly changing COVID-19 environment, researchers should consider providing information about their projects during the life of the award

C3.ai DTI: First Call for Proposals

AI Techniques to Mitigate COVID-19 and Future Pandemics

Cooperative research activities and advances in machine learning, AI, analytics, statistical analysis, and advanced computing research

- Modeling, analysis, mitigation of the spread of COVID-19
- Improving public health and medical response
- Minimizing the impact of this disease on society

Projects may be stand-alone or leverage existing efforts

First Call for Proposals: Mitigation of COVID-19 and Future Pandemics

Advanced AI techniques to mitigate pandemic

Topics may include but are not limited to the following:

1. Applying machine learning/AI methods to mitigate the spread of the COVID-19 pandemic
2. Genome-specific COVID-19 medical protocols, including precision medicine of host responses
3. Biomedical informatics methods for drug design and repurposing
4. Design and sharing of clinical trials for collecting and analyzing data on medications, therapies, and interventions
5. Modeling, simulation, prediction of COVID-19 propagation and efficacy of interventions

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First Call for Proposals: Mitigation of COVID-19 and Future Pandemics

Advanced AI techniques to mitigate pandemic

Topics may include but are not limited to the following (cont.):

6. Logistics and optimization analysis for design of public health strategies and interventions
7. Rigorous approaches to designing sampling and testing strategies
8. Data analytics for COVID-19 research harnessing private and sensitive data, including the role of edge computing/IoT for gathering data
9. Improving societal resilience in response to the spread of COVID-19 pandemic
10. Broader efforts in biomedicine, infectious disease modeling, response logistics and optimization, public health efforts in containment of rising infectious diseases, and general response strategies to better prepare us for future infectious disease outbreaks

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C3.ai COVID-19 DATA LAKE V1

Available April 13, 2020

A unified, federated, open source data image of important COVID-19 data publicly available to the DTI research community.

Initial data sets to include:

- Epidemiological Data: Johns Hopkins
- Clinical Data: Line Lists
- Genomic Data: NCBI Viral Sequences
- Journal Articles: CORD-19 Dataset
- Epidemiological Data: WHO Situational Reports
- Epidemiological Data: Atlantic COVID-19 Tracking Project
- Clinical Data: COVID-19 Chest X-Ray and CT Images

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C3.ai COVID-19 DATA LAKE V2

Available May 15, 2020

V2 data sets to include:

- COVID-19 Cognitive City, Bill & Melinda Gates Foundation
- US GCD
- Global Partnership for Sustainable Development Data
- UNESCO COVID-19 Educational Disruption and Response
- OECD “Tackling the coronavirus”
- InSTEDD Pandemic Influenza and Respiratory Illness

C3.ai COVID-19 Data Lake: Key Facts

- C3.ai COVID-19 Data Lake will include a rich knowledge graph to visualize complex data interrelationships.
- Data are aggregated into a unified image utilizing C3.ai Data Lake – making data immediately available to researchers and corporations utilizing the C3 AI Suite.
- C3.ai COVID-19 Data Lake is immediately available to C3.ai Digital Transformation Institute researchers. See C3DTI.ai.
- Will also make C3.ai COVID-19 Data Lake publicly available at no cost to global research community – accessible via any utility supporting access through restful API: e.g., Python, Tableau, Excel, etc.

Contribute!

Proposals are encouraged that will

- Contribute to the data
- Build intelligent infrastructure
- Support the scientific community

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Guidance for proposals

- PI must be at one of the six member institutions
- Funding should primarily be used at member institutions
- Investigators may be from other institutions, including international
- Preference for projects that
  - will use the C3.ai/Azure platform
  - have multi-disciplinary, multi-institution teams
  - will produce open-source software
- Research Awards are for one year, and cannot include overhead
  - $100K- $500K in cash
  - Between 225,000 and 1.15 million CPU/GPU hours
  - Use of C3.ai/Azure platform (assisted by C3.ai)
- Due date is May 1, 2020, and Awards will be announced by early June
- Submissions by April 15 may be awarded sooner
- Submissions open on April 6 on EasyChair https://easychair.org/conferences/?conf=c3aidticovid19
- Proposals: 6 pages

For further information about the Call for Proposals

- https://c3dti.ai/research/applying-ai-to-mitigate-the-covid-19-pandemic/

Please note that submission policies may include sponsored project offices at the consortium partners. Any further questions can be addressed to:

- Shankar Sastry (co-Director at Berkeley): sastry@coe.berkeley.edu
- R. Srikant (co-Director at UIUC): rsrikant@illinois.edu
- Jay Roloff (Executive Director at UIUC): jayr@Illinois.edu

Q&A