The Center for Machine Learning and Health (CMLH) is pleased to announce its Fall 2018 proposal solicitation for research projects.

The CMLH is one of two R&D centers under the umbrella of the Pittsburgh Health Data Alliance formed by UPMC, Carnegie Mellon and the University of Pittsburgh.

### The mission of the CMLH
The mission of the CMLH is to fund innovative, transformative research and development in all aspects of digital healthcare with the goal of generating commercializable systems and tools for improving the quality, efficiency, and cost-effectiveness of healthcare.

*The CMLH is a CMU university-level center whose participation is open to the entire University.*

### The CMLH is technology agnostic
The CMLH is technology agnostic. Enabling technology from computer science, biology, engineering, policy, operations, design, behavioral/social sciences and the arts and more are all possible drivers or components of novel, interdisciplinary digital solutions that address unmet needs in healthcare.

*We are open to all ideas that faculty deem relevant from disciplines across the University.*

### Awards and Funding Scope
CMLH funding provides for one year applied research projects anticipated to have budgets in the low six figures (including university overhead). After one year, projects may attract more funding to refine the technology and/or its development for commercialization. The CMLH and UPMC Enterprises will make final decisions as to the size of funding allocations. Once selected for an award, the CMLH and UPMC Enterprises will help identify potential clinical and data-transaction partners and provide guidance related to commercialization activities, as needed.
Focus Areas

The CMLH is looking for compelling science that creates value for stakeholders including patients and caregivers, providers, payers, and healthcare institutions. The three broad focus areas below present some but not all of the relevant challenges that your project may be designed to address.

Projects should strive to bridge the gap between research and practice and present a line of sight to commercial application.

Improving Outcomes

*Connect and coordinate the health system to empower clinicians to provide high quality care in any setting*

Enabling physicians/providers by harnessing the exponential growth of data (EHRs, omics, patient monitoring, et al) to enhance diagnosis and treatment that address undesirable cost and variations in therapy and outcomes. New tools are challenged to marry machine insights with human expertise all while addressing potential digital overload.

Consumer Oriented Healthcare

*Develop solutions that allow consumers to access medical services and information anytime, anywhere, and to engage in all steps of the health care journey*

Digital enablement of patient engagement unlocks powerful benefits for many stakeholders. Proactive engagement with patients in all settings, beyond structured engagement in hospitals, clinics or offices, benefits patients and caregivers via insights into self-management, compliance/effectiveness of therapy, and earlier intervention.

Infrastructure and Efficiencies

*Enhance resource allocation, service levels and care pathways to coordinate and manage the cost of care*

Delivering quality consistently and reliably is key to succeeding in the increasing value-based health care environment. Hospitals are highly-complex ecosystems and are challenged to become high reliability organizations. Technological innovation is needed to objectively understand, analyze, and model processes to enhance safety, quality and cost.

A broad variety of technologies from across CMU may be brought to bear on these challenges: machine learning, artificial intelligence, natural language processing, innovative materials/sensing, robotics, design, novel statistical inference, behavioral economics, genomics, human computer interaction, operations management, biomechanics, biology and computation, privacy and security, embedded systems, and more.
CfP Timeline: Deadlines and Review Process

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<tr>
<td>Aug 29</td>
<td>Call for Proposals opens</td>
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<tr>
<td>Sept 17</td>
<td>ITP Deadline</td>
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<tr>
<td>Oct 22</td>
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<tr>
<td>Nov</td>
<td>Review Process</td>
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<td>Dec</td>
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<td>Finalist Presentations</td>
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A panel of reviewers consisting of CMU faculty and senior staff of the CMLH will review the ITPs and proposals. *Please use the ITP as a way to gather feedback ahead the completion of your proposal.* The CMLH will reach out to you with ideas as needed to suggest enhancements. Final award decisions will be made collaboratively by the CMLH and UPMC Enterprises.

Please submit ITPs and Proposals to the CMLH at [cmlh@cs.cmu.edu](mailto:cmlh@cs.cmu.edu)

Proposals will be competitively reviewed based upon the following factors:

- Scientific, engineering merits
- Novelty/uniqueness of the proposed technology
- Advantage over competing or existing solutions
- Potential impact and value to healthcare stakeholders
- Tangible deliverables that support further fundable development and provide a basis for commercialization (e.g., pre-market prototypes)
- Potential for unencumbered intellectual property
- The robustness of the team

**Obligations:**

All researchers, faculty and students participating in research projects funded through the CMLH must acknowledge and agree to the terms of the CMLH Agreement and the Alliance Agreement. Please contact the CMLH at [cmlh@cs.cmu.edu](mailto:cmlh@cs.cmu.edu) with any questions regarding the agreements or for other questions about the CfP.