NSF SBIR Grant Proposal

We submitted a grant proposal to the NSF America’s Seed Fund program to create a viable financial asset portfolio optimization product using quantum devices. This grant will provide the organization the funding and formality required to accelerate our progress in this area. We expect an NSF decision by April 2020.

While we await a decision we are working to create a streamlined mathematical formulation of this classical (think 1950s and 1960s) problem and to achieve equal or better results on a number of quantum and quantum inspired platforms.
In our SBIR Phase I proposal, which typically awards $175K (and a maximum of $250K), we will optimize and test our portfolio optimization algorithms against a typical data set of 20 out of 118 equity assets, using historical data and forward-looking market return estimates. Once we can replicate those classical results on a quantum platform, we will then look for sources of quantum advantage in portfolio optimization (our secret sauce). We will use Phase I to perform research and reduce the risk in quantum portfolio optimization.

In other words, we will answer the question of whether quantum advantage is possible on existing quantum computers, across all technologies.

Phase II (which can award up to $1.5M, and comes after Phase I completion), will be used to go more deeply into the one or two selected technologies to build and demonstrate a production application and a consulting capability to optimize portfolios using quantum devices.

“`The work ... is typically submitted to a cloud-available quantum computer.”'` - Chicago Quantum NSF Grant Submission

DoE SBIR Grant for Topic 36.D: We will not submit a full proposal

After submitting an LOI to the DoE and networking globally to build an expert team, we could not develop the intuition, nor detailed research plan, to move from ‘great business idea’ to research read to be funded. Our proposed approach would have been to take a ‘systems engineering’ approach to develop a dual-use hardware component required for quantum networking and high-accuracy quantum sensing.
Marketing & Networking Outreach

Over the past months, the firm (via its founder) has established a presence on Facebook, Twitter, Medium, YouTube, Reddit, and has built a website at www.chicagoquantum.com.

The firm has created a logo, gained service mark protection for ‘Chicago Quantum’ from the State of Illinois, and has branded apparel.

Our firm has agreements with two quantum

Onsite presence at conferences and gatherings focused on quantum computing.

- Chicago, IL MeetUps (clients, staff, etc)
- Chicago, IL AWS Startup Day
- Boston, MA QC business conference
- Newport, RI user group
- Fort Meade, Maryland informational session
- San Jose, CA for QED-C and business conference
- London, UK (video talk at an academic conference)
- London, UK business conference

“Alex Khan & Jeff Cohen will be at this conference. Meet us there!”

“Build your knowledge and network in QC”
- Jeffrey Cohen, Founder

Published Research

Our team continues to work on publishing, updating and maintaining a point of view of the quantum ecosystem and the key, early use cases for clients using quantum technologies. We updated our research on the quantum ecosystem in February 2020 and published both the detailed report (website), two business focused articles (Medium) and created a YouTube video (36 minutes) walking through the research.

For more information, please call, text, or email Jeffrey Cohen, President, US Advanced Computing Infrastructure, Inc. at +1.312.515.7333 (cell or text) or jeffrey@quantum-usaci.com. Client inquiries welcome.