Quantum Application Word Template

## Primary Contact Information

|  |  |
| --- | --- |
| **Salutation** \* | Dr.  Miss.  Mr.  Mrs.  Ms.  Mx. |
| **First Name** \* |  |
| **Last Name** \* |  |
| **Gender** \* | Female  Male  Two-Spirit  Trans  Non-binary  Prefer not to say  X  Other |
| **Phone** \* |  |
| **Email** \* |  |
| **Street** \* |  |
| **City** \* |  |
| **Country** \* |  |
| **State** \* |  |
| **Province** \* |  |
| **Postal Code** \* |  |
| **Country of Citizenship** \* |  |
| **LinkedIn Profile** |  |
| **Google Scholar Profile** |  |
| **GitHub** |  |
| **Link to other online profile(s)** |  |
| **Why are you motivated to join this program?** \* |  |
| **What particular niche of the market do you think you will win in and why is it that you think you will win?** \* |  |
| **Stage of the startup** \* | Concept Stage (Have a business idea/concept but have not yet started building the product/service)  Technology Stage (Currently building the product/service)  Prototype Stage (Have a basic prototype/MVP that works, but no customers yet)  Validation Stage (Have a selected group of customers testing/using the prototype/MVP)  Early Revenue Stage (Have paying customers, but not yet a profitable venture)  Profitable (The venture is cash-flow positive) |
| **What type of company or team are you applying as?** \* | Software company or team  Hardware company or team |

### \* Required Fields

## Startup Information

|  |  |
| --- | --- |
| **Name of your startup** \* |  |
| **Website** |  |
| **Is your startup incorporated?** \* | Yes  No |
| **If yes, provide date of incorporation** \*  ***(Conditional on answer: Yes)*** |  |
| **Jurisdiction of registration or incorporation** \*  ***(Conditional on answer: Yes)*** |  |
| **Describe Your startup** \*  ***(1000 characters max)*** |  |
| **Describe the problem your startup is trying to solve** \*  ***(1000 characters max)*** |  |
| **Describe how your product or service works. Outline each of the different stakeholders involved and how they interact with the product/service.** \*  ***(1000 characters max)*** |  |
| **Explain the value proposition for your customers** \*  ***(1000 characters max)*** |  |
| **What is the long-term vision of your company? How is your product going to change the world?** \*  ***(1000 characters max)*** |  |
| **What is your startup’s core technology, explained in non-technical terms?** \*  ***(1000 characters max)*** |  |
| **What is the single most important dimension on which your technology outperforms your competition?** \*  ***(1000 characters max)*** |  |
| **How do you plan to protect your idea from competitors?** \*  ***(1000 characters max)*** |  |
| **Do you have a working prototype? Explain what the prototype or product demonstrates, and provide a link to a demo if available.** \*  ***(1000 characters max)*** |  |
| **Have you generated any revenue? If so, how much and over what period of time?** \*  ***(1000 characters max)*** |  |
| **How much time and money have you spent on developing this business?** \*  ***(1000 characters max)*** |  |
| **Have you raised any dilutive money? Include amount raised and investors if applicable.**\*  ***(1000 characters max)*** |  |
| **Have you received any grant funding? If so, how much?** \*  ***(1000 characters max)*** |  |
| **Provide links to published papers, original research, or open-source code you have created.** \*  ***(1000 characters max)*** |  |
| **Summarize your background in quantum technologies or in quantum information processing.** \*  ***(1000 characters max)*** |  |

Technical Assignment

Please complete the task below and submit your solution in the form of Google Drive or Dropbox link, that links to a Latex PDF document.

Choose a technology related to your business idea and describe how quantum will bring value to a certain industry vertical, real or hypothetical. Be as technical as possible, and state clearly whether a fault-tolerant quantum computer is required to achieve the improvement, whether NISQ devices may be sufficient, or other quantum technology such as quantum sensors or quantum communication hardware is required. For each case, choose a preferred quantum hardware (photonics, ions/atoms, superconducting circuits, solid state qubits, other) that is most suitable in your opinion, and justify your choice. Conclude with your best estimate for when the technology will achieve quantum advantage over its classical competitors. Your answers should include equations, figures, and technical reasoning, and be fully referenced with a scientific bibliography.

An example answer has been provided for the technology of “public key factoring” [here](https://drive.google.com/file/d/1y_3fu5NCC1UAPjlgCOdatCU9Djh_p1he/view).

|  |  |
| --- | --- |
| **Please submit your technical assignment link (Google-Drive or Dropbox) here:** \* |  |
| **Number of Key Co-founders (in addition to Primary Contact Person)** \* | 0  1  2  3  4  5 |

### Team Information

|  |  |
| --- | --- |
| **Number of hours spent on the venture during the last 30 days?** \* | Less than 10 hours  10 hours – 25 hours  25 hours – 75 hours  75 hours – 150 hours  150 hours – 250 hours  More than 250 hours |
| **Over the next 10 months, average number of hours per month planned to work on the venture?** \* | Less than 10 hours  10 hours – 25 hours  25 hours – 75 hours  75 hours – 150 hours  150 hours – 250 hours  More than 250 hours |
| **Do you have any other professional commitments at the moment?** \*  ***(1000 characters max)*** |  |
| **Relevant Experience** \*  ***(250 characters max)*** |  |
| **Key Awards and Achievements** \*  ***(250 characters max)*** |  |
| **Why is this co-founder important for the venture?** \*  ***(1000 characters max)*** |  |
| **If you have any experience as an entrepreneur (e.g., building a company, leading a project, or heading some type of initiative that required rallying others to execute on your vision), then please describe that here.** \*  ***(250 characters max)*** |  |

### Education

|  |  |
| --- | --- |
| **Number of Degrees (including in progress)** | 0  1  2  3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Degree** \* | **Specialization** \* | **Graduation Year** \* | **GPA (on a 4.0 scale)** | **Institute** \* |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Programming Language Proficiency

|  |  |
| --- | --- |
| **Java** | None  Basic  Advanced  Expert |
| **Python** | None  Basic  Advanced  Expert |
| **Javascript** | None  Basic  Advanced  Expert |
| **C++** | None  Basic  Advanced  Expert |
| **.NET** | None  Basic  Advanced  Expert |
| **R** | None  Basic  Advanced  Expert |
| **PHP** | None  Basic  Advanced  Expert |
| **SAS** | None  Basic  Advanced  Expert |
| **Ruby** | None  Basic  Advanced  Expert |
| **Lisp** | None  Basic  Advanced  Expert |
| **If there are any other languages beside the above you are proficient in please let us know.** |  |

## Additional Information

|  |  |
| --- | --- |
| **How did you first hear about CDL?** \* | At an event  Email  Media  Recruited  Referral  Search Engine  Social Media  Website  Word of Mouth  Other |
| **Who emailed you** \*  ***(Conditional on Email)*** | Email from a CDL Team Member  CDL Newsletter  Other |
| **Who referred you?** \*  ***(Conditional on Referral)*** |  |
| **Search Engine** \*  ***(Conditional on Search Engine)*** | Google  Bing  Yahoo  DuckDuckGo  Other |
| **Which platform?** \*  ***(Conditional on Social Media)*** | Facebook  Twitter  LinkedIn  Instagram  Other |
| [**What**](https://cdl.lightning.force.com/lightning/setup/ObjectManager/01I1I000001f4eU/FieldsAndRelationships/00N0A000000PqHn/view) **type of media?** \*  ***(Conditional on Media)*** | Blog  News  Podcast  Other |
| [**Who**](https://cdl.lightning.force.com/lightning/setup/ObjectManager/01I1I000001f4eU/FieldsAndRelationships/00N0A000000PqHn/view) **told you about it?** \*  ***(Conditional on Word of Mouth)*** |  |
| **What event?** \*  ***(Conditional on Event)*** |  |
| **Who was your primary recruiter?** \* | CDL Team Member  CDL Mentor (Fellows or Associates)  CDL Scientist  I applied through the website without being recruited  Other  None |
| **Name of CDL Team Member** \*  ***(Conditional on CDL Team Member)*** |  |
| **Name of CDL Mentor** \*  ***(Conditional on CDL Mentor)*** |  |
| **Name of CDL Scientist** \*  ***(Conditional on CDL Scientist)*** |  |
| **Other** \*  ***(Conditional on Other)*** |  |
| **Do you have any affiliations with other program/institutions?** \* | Yes  No |
| **If so, please list:**  ***(Conditional on Yes)***  ***(1000 characters max)*** |  |
| **Does your venture have any advisors?** \* | Yes  No |
| **If so, please list them and give a brief description of their background.**  ***(Conditional on Yes)***  ***(1000 characters max)*** |  |
| **Is there anything else you think we should know about you?** \*  ***(1000 characters max)*** |  |
| **Would you build a company if you are not accepted to this program?** \*  ***(250 characters max)*** |  |
| **Pitchdeck (Optional) (PDF Only)** |  |

2nd Co-Founder’s Information

|  |  |
| --- | --- |
| **First Name** \* |  |
| **Last Name** \* |  |
| **Gender** \* | Male  Female  X  Another  Prefer not to say |
| **Email** \* |  |
| **Country of Citizenship** \* |  |
| **Number of hours spent on the venture during the last 30 days?** \* | Less than 10 hours  10 hours – 25 hours  25 hours – 75 hours  75 hours – 150 hours  150 hours – 250 hours  More than 250 hours |
| **Over the next 10 months, average number of hours per month planned to work on the venture?** \* | Less than 10 hours  10 hours – 25 hours  25 hours – 75 hours  75 hours – 150 hours  150 hours – 250 hours  More than 250 hours |
| **Does this founder have any other professional commitments at the moment?** \*  ***(1000 characters max)*** |  |

### Education

|  |  |
| --- | --- |
| **Number of Degrees (including in progress)** | 0  1  2  3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Degree** \* | **Specialization** \* | **Graduation Year** \* | **GPA (on a 4.0 scale)** | **Institute** \* |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |
| --- | --- |
| **Relevant Experience** \*  ***(250 characters max)*** |  |
| **Key Awards and Achievements** \*  ***(250 characters max)*** |  |
| **Why is this co-founder important for the venture?** \*  ***(1000 characters max)*** |  |
| **If you have any experience as an entrepreneur (e.g., building a company, leading a project, or heading some type of initiative that required rallying others to execute on your vision), then please describe that here.** \*  ***(250 characters max)*** |  |

Programming Language Proficiency

|  |  |
| --- | --- |
| **Java** | None  Basic  Advanced  Expert |
| **Python** | None  Basic  Advanced  Expert |
| **Javascript** | None  Basic  Advanced  Expert |
| **C++** | None  Basic  Advanced  Expert |
| **.NET** | None  Basic  Advanced  Expert |
| **R** | None  Basic  Advanced  Expert |
| **PHP** | None  Basic  Advanced  Expert |
| **SAS** | None  Basic  Advanced  Expert |
| **Ruby** | None  Basic  Advanced  Expert |
| **Lisp** | None  Basic  Advanced  Expert |
| **If there are any other languages beside the above you are proficient in please let us know.** |  |