## Path to becoming a world class Computer Science Researcher

5 years

5 years

5 years

5 years

20 years

**Preparation** 

Software Engineering and Research PhD and Research Scientist

Scientist and Postdoctoral Researcher

World class Computer Science Researcher

Phase 1 Phase 2 Phase 3 Phase 4

| Activity | List of activities                                                                         | List of activities                                              | List of activities                                                                                    | List of activities                                                              |           |
|----------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------|
| Activity | Bachelor's Degree in Computer Science<br>with focus on Algorithms Design and<br>Analysis   | Master's Degree in Computer Science with a focus on Mathematics | PhD Degree in Computer Science with<br>focus on Artificial Intelligence and<br>Reinforcement Learning | Post Doctoral Fellowship with focus on General<br>Artificial Intelligence       |           |
|          | 2 years of work and research experience                                                    | Work as a researcher at one of the Big                          | Work as a Research Scientist between the                                                              |                                                                                 |           |
| Activity | before graduating                                                                          | Four while studying my masters                                  | university and one of the Big Four                                                                    | or X the moonshot factory                                                       | Facebook) |
|          | Participate in ACM-ICPC competitions and                                                   | Participate in Math competitions and                            | Participate in General Artificial Intelligence                                                        | Participate in General Artificial Intelligence                                  |           |
| Activity | achieve high honors.                                                                       | achieve high honors                                             | competitions                                                                                          | competitions                                                                    |           |
| Activity | Have an internship at any of the Big four companies and get involved in research projects. | Teach Problem Solving and Research to aspiring students         | Teach core computer science courses at for bachelor's students at some university                     | Teach core computer science courses at for master's students at some university |           |
|          | Publish a research paper before                                                            | Publish a thesis in core Computer Science                       | Have an internship at DeepMind, OpenAI,                                                               | Publish a thesis in core Computer Science and                                   |           |
| Activity | graduating                                                                                 | and Mathematics before graduating                               | or X the moonshot factory                                                                             | General Artificial Intelligence                                                 |           |
|          |                                                                                            |                                                                 |                                                                                                       |                                                                                 |           |

|       |             | Phase 1<br>Outcomes Title                                                                                              | Phase 2 Outcomes Title                                                                              | Phase 3 Outcomes Title                                                                                                         | Phase 4 Outcomes Title                                                                                                         |
|-------|-------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|       | Outco<br>me | List of Outcomes                                                                                                       | List of Outcomes                                                                                    | List of Outcomes                                                                                                               | List of Outcomes                                                                                                               |
| OI mi | Outco       | Develop foundational knowledge in<br>Computer Science and it's core courses                                            | Extend my foundational knowledge in<br>Computer Science and it's core courses,<br>and try new areas | Extend my math knowledge and computer science skills                                                                           | Have a place in the industry where I can apply my knowledge and share it at the same time                                      |
|       | Outco<br>me | Get a practical experience from the courses that I learned, get a head start after graduating                          | Apply my knowledge of a research level and at scale in the same time                                | Apply my skills and get practical experience from both the academic area and the enterprise area                               | Work of the world's hardest problems were solving<br>them would result in huge difference on different<br>parts of the world   |
|       | Outco<br>me | Find the right mindset for computational problem solving and mathematics                                               | Develop Foundational Mathematics and apply my previous problem solving skills in math               | Develop Foundational artificial intelligence problem solving mindset and apply my previous math and computer science knowledge | Develop Foundational artificial intelligence problem solving mindset and apply my previous math and computer science knowledge |
|       | Outco<br>me | See how the successfull engineers are doing it, get involved in big scale products and have references in the industry | Give back to the community and develop a teaching technique                                         | Apply my teaching and problem skills to new students in the community                                                          | Apply my teaching and problem skills to new and experienced students in the community                                          |
|       | Outco<br>me | Gain experience for writing an academic paper and get involved with people in the industry                             | Apply my problem solving and math skills in an academic side                                        | Apply my knowledge and get practical experience from top tier Al companies                                                     | Apply my problem solving and math skills in an academic side and core computer science side                                    |