Throughout the years, society has not found a correct solution for natural disasters. If we compare death rates from 200 years ago to now, there is, in fact, a worsening of casualties. This is why we introduce the Robust Adaptive Network. RAN is able to save lives by helping the victims in delivering supplies, enabling communications, and providing live data in order to ensure that the inevitable occurrence of natural disasters do not cause any more casualties than the minimum.

* Humanity is facing many pressing problems. What problem do you want to solve? What should we know about you and your motivations? (3 min Video)
  + Nature is always going to be a problem. Whether we like it or not, the world will run a roll of the dice for nature to throw problems at you
    - While all these are severe, some of them we have great minds, and great potential for solving
      * Eradicating disease
      * Food production for famine
    - There is one force of nature so strong and so violent, that we will never be able to eliminate it: natural disaster
      * Tornadoes
        + Cant build a wall to stop wind
      * Hurricanes
        + Cant block the sky/ocean
      * Earthquakes
        + Screw in tectonic plates
    - The fact of the matter is that humans have long ignored natural disaster response technology, but that will change with me
* Nature
  + Epidemic
  + Famine
  + Hurricane
  + Tornado
  + Flood
  + Earthquake
* Famine and Disease category
  + Already a lot of funding
  + Many scientists
  + TECHNICALLY avoidable
* Natural disasters
  + Cant build a wall around a city to stop a tornado
  + Cant block out the sky to prevent floodign from rain
  + Cant screw a tectonic plate
* I focus on the disaster response becuase we know its avoidable and an exleelet response strategy is necasary
  + Humans have long ignored a proper solution to disaster respninse
  + Especially since most deaths during a natural disaster, we already have the solutions for
    - No first aid
    - Drinking poisoned floodwaters
    - Lack of supplies
    - Improper communications
  + All of these are not novel problems, they just eed to be solved in teh disaster context, a calamity that will always be there
* I would want to put my attentions into making sure that harm from certainty of natural disaster is minimised to the least possible number, turing the processes of mitigating damage from the roll of a dice into a proper disaster solution.
* Next steps
  + Further research on how to bring our exhisting solutions into the tumultuous environment of a natural disaster
  + Keeping this system reliable and consistent for sustained emergency use.
* What Will I need
  + Not only my own dedication, but help from others too. Not only from funding, but from knowledge and mentorship too
* What challenges have you faced and how have you overcome them? (3 min video)
  + Mandarin
    - I wanted to pursue this language because I saw benefit from being able to communicate with the 70% chinese populations
    - Advice against learning the worlds toughest language
      * Especially since I have no background, my family is Indian
    - Cultural differences
    - Overcame the obstacle
      * 1. Saw it as an opportunity to learn
      * 2. Keeping my eyes on the goal
        + Motivations/ callings
        + Perserverence
      * Surpassed native speakers in my singapore classes
      * Won competitions, especially in the US
    - Still continuing till today
      * Reaching the level of self conversations and written compisisons.
      * Having greater cultural awareness and empathy
      * I keep the mindset that any challenge is just another opportunity to take advantage of the situation, learn from it, and cross another achievement in my journey of constant self-improvemtn
* **What are the three accomplishments or achievements that you are most proud of? (1600 chars)**
  + I spend 20+ hours each week honing my robotics skills to produce machines of elite standards. From my work and dedication, I have become well-known in the robotics community. From my dedication to competition robotics, I was invited to be a guest speaker at the Vex Robotics 2022 World Championship. I spoke live in front of over 30000 people to give a speech of honor and inspiration regarding my main passion: robotics.
  + After being born in India and immigrating to Singapore, I decided to pursue learning Mandarin so I could better connect with the 70% of Singaporeans who are Chinese. Even after advice against learning this impossible language at such a late age (especially since most Singaporeans speak English anyways), I worked hard to learn the language and surpassed native speakers of my age. Although I am now in the US, where I lack much incentive to keep up my Mandarin, I continue to pursue the hardest language of the world, reaching the level of sustained conversations and written compositions.
  + I have a gift of being able to give anyone a sense of wonder and understanding on any topic, which manifested itself into my project: “Pedal Power”. It involves a stationary bicycle used to generate electricity from a riders’ pedaling to charge someone’s devices to bring awareness to the preciousness of electricity by demonstrating the effort required to produce small amounts of power. I was able to effectively present this project to win funds from the US National Wildlife Federation and my school district to build multiple modules for distribution across many locations.
* **Rise is seeking to support individuals that are aspiring to make the world a better place and serve others. Tell us: how do you serve others in your life? This could be anything from volunteering to tutoring to taking care of family. We want to understand how you see your role and responsibility in making the world a better place. (1600 chars)**
  + My main gripe with the world is its emphasis on luck. This especially applies to access of knowledge and experiences. Not only does the world give a greater chance of acquiring knowledge and opportunities to those from luckier circumstances, but the nature of the world causes your intake of knowledge, and your access to helpful information to be based on random chance. This is especially important because knowledge is the key to learning skills, performing complex tasks, and overall success. I serve the world by trying to reduce the influence of luck on the attainment of knowledge. I recognize that I am lucky to have the knowledge and experiences I know, and find it my responsibility to never control or limit access to this gift for others. I distribute my knowledge, and teach from my experiences, to increase global prosperity. In this way, I act as an impactful teacher to anyone who asks me question. By opening my knowledge, and continuing teaching others, I not only increase the knowledge of others, but I develop my empathy and knowledge from others. By combating the stubborn force of random chance through the unlocking of my experiences to others, I change the world by making the barrier for success less like a roll of the dice, and more like a fair game of chess. Even though my direct impacts are on a narrow scale, I develop a path for a cycle of helpfulness through each person I meet, as they are compelled to follow my example to boost general access to knowledge and experience. From this, I contribute to a global force to maintain anyone’s access to information.
* ‘
* Part 1: Focus and Research (3 min video):
  + What is the focus for your Rise Project and how does it link to your personal motivations?
    - **My focus for the Rise project is a better way to approach disaster response.**
    - **This links to my personal motivations becuase:**
      * **1. I think natural disaster response is a vital area of development that has not been adequately addressed**
        + **A mojority of casualties are**

**Lack of food**

**Poisoned floodwaters**

**No first aid**

**Lack of supplies**

* + - * + **Natural disasters are going to be unavoidable, so we must prepare,**
      * **2. I believe minimising the role of luck in anyone’s life. My ideal world would be where people are not ruined by the fores of random chance, and contributing to a proper disaster respone takes a mjor step towards avioding the ruining of lives from an unlucky tornado.**
  + **What did your research reveal about your project's focus area?** 
    - **Most casualties occur in natural disasters in 3 main ways:**
      * **1. Lack of communications**
      * **2. Lack of supplies**
      * **3. Scarce informations**
  + **How did your research impact your approach to addressing your project's focus** area?
    - I know now that I will have to design something around addressing these seemingly simple, vital problems of communications, supplies, and information.
* Part 2, Design and Plan (3 min video):
  + An outline of your intended project goals and a clear rationale for why you have chosen them.
    - My main project goals are creating a robotic system that
      * Improves victims’ communications ability during natural disaster
      * Can deliver supplies like food, water, medicine, etc to victims
      * Involves sensors and data that can be transmitted to rescue operations
    - These were chosen because they are the 3 main causes of casualties in disaster response that a robtoic system can accomplish
    - A robotic system was chosen becuase
      * Sending humans into those dangerous situations would be bad
      * Having any static, cememted systems would fall prey to the damage from natural disasters, like power lines or tapwater
  + A description of the solution you designed to achieve your goals and of your detailed project plan.
    - My solution to improve the condition of our current disaster respnse crisis id the RAN
      * You can imagine it as multiple. Maybe hundred of drones and rovers flythign through the sky and ramon on land.
        + Each of these small robots would be fitted with a satellite to mobile device wifi router
        + Ability to carry sufficient payloads
        + Live sensors, and cameras for rescue operations to use intimes of emergency
  + Ethical considerations you took into account before starting your project (3 min video)
    - The main ethical considerations when making these machines will the the aspect of reliability
      * We cannot have people in disaster depending on a RAN robot to help with the delivery of medicine, for example, but that never arrives.
    - This reliability will come from mentorship through experts, and engineering designs based upon established subsystems and principles.
      * Firefighting drone
      * Wasily replaceable parts
      * No custom fabrications
      * Simple, robust mechainsms
* Part 3, Act and Reflect (3 min video):
  + What actions did you take to implement your Rise Project?
    - 1. Research into similar robot ideas and efforts
      * Firefighting drones
      * Army vehicles
      * Drone swarm algorithms
    - 2. CAD model
      * Present to investors/supporters
      * Plan out an ideal design
      * Forsee assembly or other issues
        + Packaging and transport
    - 3. Reach out for support
      * Companies
      * Local government
      * Mentors/experts
  + What challenges or surprises did you encounter, if any, and how did you adapt or persevere through them?
    - Challenges
      * Trust as a highschooler
      * Learning in an effective way to propel the project
        + Proper content
        + Misinformation
        + Distractions, and tangents
    - Surprises
      * Mayor accepted the challenge
        + Prototyping studio
      * The CAD model was impressive to fellow changemakers
  + How effective was your project?
    - By the positive feedback, and the multiple contributions, I consider the key designs of RAN to be successful
  + What are your key learnings from your Rise Project and how will you apply them? What would you do differently?
    - Key learnings
      * Make sure to embrace your challenges and remember that brilliant ideas will only come from the opportunity that those hurdles provide
      * Make sure to keep a general end-goal in mind, in order to allow you to persevere towards any goal
      * Do not bee too caught in your own activities, isolated. Remember to reach out with empathy and integrity for others to help you well.
* Summarize your Rise project.
  + What is the issue you identified for your Rise project and why did you select this issue? How did you research and address that issue? Why do you feel that your project is a good response to the issue? (1600 chars).
    - My project (Robust Adaptive Network) focused on the development of a more effective disaster response system.Through research, I found that the most important problems to address would be the lack of communications, delivery of supplies, and the availability of accurate, live, data during the natural disaster. With these goals, I was able to come up with a solution of using a network of robots that spread through a city like a superorganism, interconnected into a rescue-network that tackles land-roaming (rovers) and air-travel (drones).

A significant cause for casualties in disasters is the lack of communications. This is because people are unable to call for help, receive notices,or organize rescues. RAN solves this by acting as a blanket of WIFI to an affected area through each robot’s satellite-to-wifi router so victims can access temporary public WIFI to remain aware.

Another leading cause of casualties in disasters is a lack of access to supplies. Victims of disaster are prevented from restocking necessities like food, water, medication,etc. RAN beats this by distributing payloads to any location from its designs that follow the engineering of firefighting-drones and high-cargo rovers.

Assistance efforts in disasters are often ineffective due to the rescuers having scarce information, causing missions to be unaware of where to best allocate their resources. RAN provides operations with first-hand, live data from the disaster zone through its live-camera and sensor feeds.

In this way, RAN is able to solve for the most crucial problems in disaster response.

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1. Summary written response
2. Video editing
   1. Problem you want to solve
   2. Challenges/struggles
   3. Focus and research
   4. Design and Plan
   5. Act and Reflect
3. Quiz + puzzle