Ashna Nirula

Website | Email | Linkedin | Github | Medium | Blog

EDUCATION

Milliken Mills High School **Markham, ON**
Expected IB Diploma *2021-2025*

EXPERIENCE

Scientific Writer **Jan 2025-Present**
Trove Biosciences *Toronto, ON*

- Currently working on a scientific article detailing the opportunity of novel CRISPR delivery into plant crops for agricultural adoption in collaboration with Dr. Tarika, a consultant and industry expert

Data Contributor **May 2024-July 2024**
PhageBase *Stanford University*

- Worked on contributing to the largest database of phage electron micrographs, alongside Aaryan at the Bollyky lab at Stanford, synthesizing 50+ scientific papers of bacteriophage research

PROJECTS

Yeast Plasmid Design - making milk without the cow | Paper **Jan 2024-Mar 2024**

- Using the genetic engineering software Benchling, I replicated a plasmid DNA design that gives yeast cells the ability to biomanufacture milk proteins without a cow.
- I also wrote a research paper after understanding the system design of this complex biological mechanism called precision fermentation

TheMondayMag.Com - celebrating everyday mundane magic | Website **August 2024**

- TheMondayMag is a seasonal mixed media magazine celebrating the magic in the everyday mundane rather than curated cultivated fragments of real experience.
- This ongoing project is a labour of love because it has taught me technical web development, brand design, creative writing and community creation

Project Manager - CAE Consulting Challenge | Deck **March 2022**

- As Project manager for a month-long sprint with Canadian Aviation Electronics (CAE) at The Knowledge Society, I led a team in a community consulting project to diversify the largest pilot training company in the world
- Backed by economics, industry research and expert outreach, we created a standalone slide deck recommendation for CAE's entry into construction training with digital twins to expand their product scope

Computer Vision TensorFlow Model - detecting crop disease | Github **December 2021**

- Because of the significant economic loss of agricultural diseases, I built a CNN (Convolutional Neural Network) to classify images of healthy and late-blight affected plants
- This would allow farmers to detect diseases faster than manual methods and reduce yield loss
- Understood how to build a model from scratch using TensorFlow and the process in analyzing datasets

Underwater Farming prototype - a new food method | Video **April 2021**

- This project was a replica of Nemo's Garden, the world's first underwater farm
- Since more than half of arable land is used for crops, it was an alternative food manufacturing idea underwater
- By designing this prototype, I successfully grew a marigold underwater using the principles of hydroponics, water pressure and a repurposed fish tank

MEDIA

- Spoken at various conferences and events about food technology and sustainability, including
    - a panel at the Change Leadership Conference in May 2023
    - MC of the Planet Tech stage at WebSummit, the world's largest tech conference in November 2022
    - Future of the Climate Panel at Microsoft HQ with The Knowledge Society (TKS) in June 2022

TECHNICAL SKILLS

- **Interests:** Sustainable design, Systems engineering, Climate-tech, Math and Innovation
- **Hard Skills:** Python, HTML/CSS, Figma, CAD, Benchling
- **Soft Skills:** Technical writing, Spoken communication