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EDUCATION

UNIVERSITY OF TORONTO (UOFT)

Sept 2022 -

Masters of Applied Science (MASC) in Civil Engineering

St. George Campus, Toronto

- Advised by Dr. David Meyer and affiliated with Center of Global Engineering to research on the thesis topic titled 'Harnessing Data to Visualize and Mitigate Urban Water Inequities within the Cauvery River Basin, India.'

NEW YORK UNIVERSITY (NYU)

Sept 2018 - May 2022

Bachelor of Science (BSc) in Mechanical Engineering

NYU Abu Dhabi (Home Campus), NYU Tandon School of Engineering New York, NYU Tisch School of Arts New York

- **Relevant Coursework:** Finite Element Analysis, Environmental Engineering, Transportation Engineering, Urban Data Mapping, Design and Innovation, Information Management and Modeling for Construction, Project Management

SKILLS

- **Programming Languages:** C, C++, Python, SQL, HTML, CSS, LaTeX, R
- **Other:** TensorFlow, GIT, AutoDesk Fusion 360, COMSOL, ABAQUS, Blender, MATLAB, Solidworks, Ansys, GIS, Civil3D, Tableau, Office 365

RESEARCH EXPERIENCE

L.A.N.D GROUP NYU ABU DHABI

Feb 2021 - Current

Research Assistant (Final Thesis)

- Working with Prof. Mohammed Daqaq to design functional mechanical springs inspired by origami using 3D printing.
- Designed an intermediate origami prototype with applications to remove atheromatous plaque from arteries.

URBAN MODELING GROUP NYU TANDON SCHOOL OF ENGINEERING, NEW YORK

June 2020 - Dec 2021

Research Assistant

- Working with Prof. Debra Laefer to develop a framework for **spatial epidemiology** for COVID-19 funded by NSF grant.
- Developed protocols for **risk-identification** and **sanitation** using **Thermal Imaging, Machine Learning and HoloLens**
- Collected **Thermal Data** of over **100 objects** to **investigate patterns** of disease spread and possible preventive measures.

NETBIO GROUP NYU ABU DHABI

June 2020 - Aug 2020

Research Assistant

- Worked with Prof. Andras Gyorgy in design of a low-cost **3D printed IoT device** to **monitor cell growth** in Erlenmeyer flasks.
- Simulated simple **light refraction** models in flasks using **COMSOL** and using **ray-tracing method** in **MATLAB**.
- Collaborated with lab members to interpret the **light propagation** and **fluid dynamics model** of the fluid during cell-culture.

TEACHING EXPERIENCE

TERRESTRIAL ENERGY SYSTEMS (CIV300H1F ENV346H1F) UNIVERSITY OF TORONTO

Sept 2022 -

Teaching Assistant

- Teaching the tutorials component of the course for a class of **250 students** to learn various systems of energy storage and transformation within the Earth and the Sun.

PLASTIC FANTASTIC (CADT-UH - 1045J) NYU ABU DHABI

May 2021 - June 2021

Teaching Assistant

- Instructed the lab component of the course for a class of **15 students** to learn intrusion molding, extrusion molding and shredding machines.
- Developed **assignments**, guided in **prototyping** their designs and **evaluated them with coordination of the course instructor**.

COMPUTER-AIDED DESIGN (ENGR-UH - 3720) NYU ABU DHABI

Jan 2021 - May 2021

Teaching Assistant

- Mentored and taught a class of **14 students** CAD modelling and design from basic to advanced levels.
- Graded and developed **assignments and lab presentations** and provided them with individual feedback to assist the course instructor.

WORK EXPERIENCE

RESIDENTIAL EDUCATION NYU ABU DHABI

Jan 2022 - July 2022

Resident Assistant

- Worked with residents to create a **living and learning environment** that promotes **academic growth, personal responsibility and community accountability** through **8 activities such as floor meetings and community events** supporting **45 students**.
- Assisted residential students in **academic, social, and personal matters** through resource referral and collaboration with various department on campus.
- Provided support for University mediation procedures in roommate and community conflicts through facilitation of roommate/community meetings and referring students to other mediation services

STARLAB OASIS, A PART OF NANORACKS ABU DHABI AND WASHINGTON DC

Nov 2021 - May 2022

Engineering Intern

- Collaborated with research scientists from Abu Dhabi and DC to develop agricultural food technologies for CubeSats and International Space Station.
- Produced designs for **agricultural and food growth chambers** and research alternatives to growing mediums.
- Established business relations of various space agencies and companies by finding **right value proposition** between the entities.
- Drafted sections of **research grants and competition briefs** to attain seed funding of around **\$10,000** for the company.

PROJECTS

SPACEPORT AMERICA ROCKETRY CUP EXPERIMENTAL SOUNDING ROCKET ASSOCIATION

Jan 2020 - July 2022

Co-Lead and Design Engineer

(restarted)

- Collaborated with a interdisciplinary **team of 10** students to build a **rocket** from scratch.
- Developed a **recovery system** using 2-step process designed to recover the payload travelling at **hit velocity of 11.9 fps**.
- Conducted and built **simulations** using **Open Rocket** to design and investigate effective rocket designs and propellant fuels.

COOLPARK ABU DHABI MUNICIPALITY'S COOL ABU DHABI CHALLENGE

Feb 2020 - May 2020

Sustainability and HVAC Engineer

- Designed a **public space** to combat **Urban Island Heat Effect** with a interdisciplinary **team of 2** students.
- **Conceptualized** cooling of the space using **Geo-thermal cooling** found at the outer surface of Earth's crust and **convection**.

HABITAT FOR HUMANITY THAILAND

Jan 2019 - May 2019

Builder and Ethnographer

- Constructed a small house for an underprivileged family in Thailand with a team comprising of people from over 20 countries.
- Conducted field surveys with the family and in the village to understand and design efficient irrigation systems for the house and the agricultural lands.

IMMUNE RESPONSE AND ATHEROSCLEROSIS DURING SPACE FLIGHT UAE SPACE AGENCY

Jan 2019 - March 2019

Design Engineer

- Designed with a **team of 2** to build a **payload** investigating how **gravity affects immune response of atherosclerosis**.
- Presented before UAE Space Agency Director and placed second from **over 70** teams participating from all over UAE.

GRANTS AND AWARDS

POST GRADUATE PRACTICAL TRAINING PROGRAM NYU ABU DHABI

May 2022 - July 2022

- Awarded **\$4000 USD** to **design a rocket to lift a science payload to 10,000ft** as well as help craft a sponsored UAE-wide program to prepare and support additional university teams in participating in international intercollegiate rocketry competitions.

NYU ABU DHABI AND ABU DHABI GOVERNMENT SCHOLARSHIP NYU ABU DHABI

Oct 2018 - May 2022

- Awarded a full-ride for all four years at New York University covering tuition, living and other expenses based on merit.

TANDON MAKERSPACE RESEARCH GRANT TANDON SCHOOL OF ENGINEERING, NY

Sept 2021 - Dec 2021

- Awarded **\$400 USD** to buy high-quality thermal imaging camera and **conduct research in thermal imaging**.

TANDON UNDERGRADUATE SUMMER RESEARCH TANDON SCHOOL OF ENGINEERING, NY

June 2021 - August 2021

- Awarded **\$5700 USD** to **conduct a NSF led research** to collect and create a framework to detect COVID-19 patterns in New York City.

NYU ABU DHABI SUMMER UNDERGRADUATE RESEARCH NYU ABU DHABI

June 2020 - July 2020

- Awarded **\$1000 USD** to conduct research about light propagation in fluid during cell-culture.

PUBLICATIONS

1 PAPER IN PROGRESS ON NON LINEAR DYNAMICS

- Expected to be published by end of 2022.

LEADERSHIP AND COMMUNITY INVOLVEMENT

CIVIL ENGINEERING REP TO FASE AND CUPE GRADUATE STUDENT ASSOCIATION, UOFT
• Working with faculty and graduate students regarding academic and institutional affairs.

Sept 2022 -

ENGINEERING STUDENT CHAIR NYU ABU DHABI STUDENT GOVERNMENT

June 2021 - May 2022

- Chaired a committee with **5 representatives of different engineering disciplines** to represent engineering students at the NYU global and departmental levels.
- Worked with the **the Provost, Associate Provost and the Engineering Dean** to address student concerns.
- Approved **new classes and syllabi** based on recommendation from students and faculty needs.
- Organized **events and conferences** with other university departments such as the **Career Development Center**.
- Elected to the **Student Council** and voted on matters affecting student body and **voiced student needs to the administration during COVID-19**.

DIVERSITY AND INCLUSION CHAIR NYU ABU DHABI STUDENT GOVERNMENT

Jan 2020 - May 2020

- Chaired a committee with **6 students** to build a **university-wide culture of inclusion, diversity, belonging, and equity**.
- Led large programming events to **educate students about inclusion and cultural based learning** to foster a culture of belonging in the university.
- Spearheaded a movement in collaboration with the Dean of Students office to conduct monthly check-ins with **people of determination and other disadvantaged students**.

STUDENT REP AT VICE CHANCELLOR TRANSITION WORKING GROUPS NYU ABU DHABI

Sept 2019 - Dec 2019

- Communicated student perspectives on **Disciplinary and Interdisciplinary missions** of the university and **investigated the under performing areas** in the curriculum.

PROFESSIONAL MEMBERSHIPS

MEMBER OF TRIPOLI ROCKETRY ASSOCIATION

May 2022 - Current

MEMBER OF NATIONAL ASSOCIATION FOR AMATEUR RADIO(ARRL)

May 2022 - Current

MEMBER OF ASME CHAPTER NYU ABU DHABI

June 2021 - Current

- **Founded the first ASME chapter** at NYU Abu Dhabi and elected as the **first Secretary** of the chapter.
- Coordinated tasks to advertise the chapter among undergraduates and graduates which led to an enrollment of **at least 60 members** to the chapter.
- Organized events with faculty and other universities to teach **professional softwares such as Solidworks and ANSYS** for our members.

MEMBER OF IEEE CHAPTER NYU ABU DHABI

Dec 2019 - Current

- Attended regular meetings and events hosted by IEEE.

MEMBER OF ASCE CHAPTER NYU ABU DHABI

Oct 2019 - Current

- Attended regular meetings and events hosted by ASCE.

PROFESSIONAL LICENSE

HAM RADIO TECHNICIAN LICENSE NATIONAL ASSOCIATION FOR AMATEUR RADIO(ARRL)

May 2022 - Current

DIPLOMA IN MUSIC TRINITY COLLEGE LONDON

Sept 2009 - May 2017

ARTS AND THEATRE

THE GAUNTLET: FARAWAY TOGETHER NYU ABU DHABI CHORAL ENSEMBLE

Jan 2021 - May 2021

- Performed in the libretto composed by world-renowned artists **Sxip Shirey and Coco Karol** about Abu Dhabi which captures distance and connection during COVID, in memories, and in notions of home and belonging.

NYU REALITY SHOW TISCH SCHOOL OF ARTS, BROADWAY, NY

June 2019 - Sept 2019

- **Writing, producing and performing** with **12** cast members in New York City and Abu Dhabi.
- Orchestrated various discussions about mental health and identity issues to constantly remind the student community about the resources provided by the university.