

# Ankitha Elizebeth Mathai

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## SUMMARY

Environmental and Civil Engineering graduate with a strong interest in digital engineering, BIM technologies, and sustainable infrastructure development. Experienced in using Autodesk Revit, Navisworks, AutoCAD, and ArcGIS for 3D modeling, BIM coordination, and digital design. Skilled in conducting environmental impact and life cycle assessments with an understanding of planning regulations such as the Auckland Unitary Plan. Eager to grow in areas like Digital Twin and Virtual Design and Construction (VDC), and contribute to innovative, future-ready civil engineering solutions.

## EDUCATION

### Master of Civil Engineering (Environmental Engineering) | GPA- 7.67 | July 2024 – July 2025

#### *The University of Auckland*

• Key Areas of study include:

- Environmental impact assessments- Conducted a life cycle assessment (LCA) and carbon footprint analysis of Whittaker's chocolate to evaluate cradle-to-grave environmental effects.
- Building information modelling (BIM)- Utilized Revit and Navisworks to model a multi-disciplinary warehouse incorporating HVAC and water systems.
- Stormwater Management- Designed sustainable stormwater solutions using rainfall analysis and treatment strategies for Drury South Crossing, ensuring compliance with New Zealand water regulations.
- Wastewater Engineering: Calculated and designed a treatment plant layout, gaining practical knowledge of sizing and processes.

### Bachelor of Civil Engineering (Honours) | Second-Class Upper | October 2018 – March 2023

#### *Monash University Malaysia*

• Key Areas of study include:

- Hydrology
- Structural engineering
- Water resource management
- Project management

## TECHNICAL SKILLS

**Civil software:** Arc-GIS, Autodesk Revit, AutoCAD, OpenLCA., Navisworks

**General software:** Microsoft Word, Excel, Canva, Photoshop, MATLAB.

**Soft Skills:** Analytical Thinking, Problem-solving, Teamwork, Effective Communication, Adaptability, Critical Thinking, Collaboration, Attention to Detail

**Language:** English (Proficient), Hindi (Advance), Malayalam (Basic)

## INTERNSHIP

### Or Kim Peow Contractors PTE. LTD. (Singapore) - August 2023 – June 2024

- Contributed to the sustainable construction of 28km cycling paths for the LTA project.
- Addressed environmental management including stormwater retention, waste minimisation, and site remediation.
- Collaborated with diverse stakeholders, ensuring effective communication and environmental responsibility.

## ACADEMIC PROJECT AND RESEARCH

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- **Biochar Application Study** - Investigated biochar's potential in environmental remediation and climate change mitigation through quantitative research and analysis.
- **Battery disposal in New Zealand** - Conducted an environmental impact assessment analysing lithium-ion battery disposal and waste management practices, stakeholder analysis, policy recommendations, and opportunities for circular economy implementation.
- **Capstone Project**- Designed student accommodation incorporating sustainable practices aligned with Green Building Index and UN Sustainable Development Goals.
- **BIM Coursework Project**
  - Completed a digital design project using Revit and Navisworks to create a coordinated 3D model of a multidisciplinary warehouse, integrating architectural, structural, HVAC, plumbing, and water systems, while applying clash detection and project scheduling to improve planning and design efficiency.
  - Carried out solar and heat gain calculations to inform sustainable design choices and improve building performance.
  - Applied digital engineering concepts to simulate real-world project workflows and enhance design accuracy.
  - A video demonstration of the BIM model is available on my portfolio website:  
<https://www.ankithaelizabeth.com/>

## LEADERSHIP AND INVOLVEMENT

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### **Volunteering | Perfectly Imperfect | Auckland, New Zealand | July 2024**

- Promoted sustainability and reduced food waste by selling imperfect produce through The Kitchen Project, supporting community well-being and environmental awareness.

### **Volunteering | Andy's Place | Auckland, New Zealand | July 2024**

- Supported a charity program offering cafe-style coffee and a welcoming space for international students, helping foster connection and belonging.

### **Head of Public Relations | MUSA. School of Engineering Subcommittee | Malaysia | April 2020 – December 2020**

- Organised and led events like SOE Games night and orientations for freshers, improving leadership and teamwork skills.

### **Executive Marketing Manager | Robogals Monash Malaysia | Malaysia | December 2020 – December 2021**

- Organised STEM workshops for 50+ students to encourage girls in engineering. Managed social media, boosting outreach and followers by 300+.

### **Model United Nations (UN Security Council, SPECPOL) | Singapore, Malaysia | September 2015, June 2019**

- Improved public speaking and negotiation skills by debating global issues and collaborating on team-based resolutions.

## REFERENCE

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[1] **M. E Raghunandan** | Associate Professor | Monash University | [mavinakere.raghunandan@monash.edu](mailto:mavinakere.raghunandan@monash.edu)

[2] **Bevan Clement** | Professional Teaching Fellow | University of Auckland | [b.clement@auckland.ac.nz](mailto:b.clement@auckland.ac.nz)

## ADDITIONAL INFORMATION

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**Visa Status:** Student visa valid until 31st August 2025; 3-year post-study upon graduation.

**Availability:** Full-time from July 2025.