



University of Cape Town
School of Information Technology Showcase
2022

Programme

- **6:00pm** **Arrival & Poster/Demo viewing**
- **6:15pm** **Honours Project Presentations**
 - **“Terrain ML: Generating Terrain using Diffusion Models”**
Daniel Lochner and Joshua Lochner.
Department of Computer Science.
 - **“NFT Incentive Program”**
Isma-Eel Adams, Savannah Althoff-Thomson, Intisar Constant and Robert Walton.
Department of Information Systems
 - **“Limited Run Consignment Portal”**
Furqaan Ajmoodien, Goosain Allie, Athir Fayker and Kyle Poggenpoel.
Department of Information Systems
- **6:35pm** **Presentation of Awards**
- **6:45pm** **Cocktail Reception**
Poster/Demo viewing

**With generous support for the awards and event from:
BSG, iOCO, SOLIDitech, Huawei Technologies Africa (Pty) Ltd, FNB,
Electrum, Entelect, Thinkst, EY, GetSmarter, Inspired Consulting,
Training and Research, KPMG and
Open Box Software**

Computer Science Honours Projects

3D Face Generation

Luc van den Handel, Sebastian Oliver, Liam Watson

Generative Encoding Schemes for Adaptive Gait Evolution in Hexapod Robots

David Blore, Julius Smith, Michael Scott

Terrain ML: Generating Terrain using Diffusion Models

Daniel Lochner, Joshua Lochner

Archiving the Archives: ARCH2

Craig Stevenson, Callum Fraser, Alex Olivier

AR Placer

Sabrina Mackay, James Burness

Building and Monetizing a Digital Community Radio Station

Linamandla Pikisa, Mujaahid Mullagee

Explicit Treatment of Electronic Polarizability in Carbohydrate Modelling

Zahra Mohamed, Tiffany Yuan

Semantically Meaningful Clustering of Cultural Heritage Sites

Leah Gluckman, Jemma Sundelson, Jared May

Kitchen: Compiler Visualiser and Teaching Tool

Josie Rey, Si van Riel

DBCMP: A Database Performance Comparison

David Court, Bradley Culligan

You and Your Baby: Co-designing an ECD Content Delivery System for a NGO

Jono Swanepoel, Mukundi Chitamba, Suvanh Ramrutghen

HPy: Design Choices for Extension APIs and Dynamic Languages

Du Toit Spies, Gianluca Rizzo

Model-Based Defeasible Reasoning

Jaron Cohen, Carl Combrinck

Deep Learning in Cardiovascular Disease Detection Using Electrocardiogram Data

Jarred Fisher, Joshua Rosenthal, Shai Aarons

Meaning Representation Parsing

Claudia Greenberg, Jane Imrie, Chase Ting Chong

Investigating Student Engagement in an Educational Programming Game Utilising Competitive Elements

Ameel Valjee, Calvin Nyoni

New Honours Project Archive

Richard Paterson

RAGAT: The Radio Astronomy Science Gateway

Caeden Bredeveltdt, Abdullah Ebrahim

Scalable Defeasible Reasoning v2

Evashna Pillay, Dhires Thakor Vallabh

Scripting for Publication Quality Images

Tangwa Shihepo, Martin van Rooyen

DB-Tutor

Maryam Sonnie, Anneke Marx, Liam Gurney

STITCH: Detecting Image Stitching Artefacts in Orthomosaics

Julian Lord, Reece van der Bank, Hezekiah Cupido

SUGARTOO: Design and Implementation of Carbohydrate Web-Tools

Joseph Sidley, Lauren Paton

Evolving problem solving collective behaviour and functional diversity in swarm robotics

Kevaalin Rapeti, Sihle Calana, Bailey Green

VREmote: The Effects of User Control on Emotion Elicitation in Virtual Reality

Iain Hutcheson, Julia Kinghorn

Information Systems Honours Projects

Blockchain-enabled web application for online payments

Thelma Chitsa, Mufaro Nyangari, Connor Stevens, Tim Wright

Onboarding System - Gamified & Automated

Jonan Bowers, Rafeeq Jaffer, Kyle Kretschmer, Cameron-Grant Royine

Meals for Businesses - Booking and Sign-up System

Papama Mtambeka, Pamela Mweli, Siphesihle Simelane, Musa Sopela

Platform to connect Service Providers with Home Residents

Shelley Dowrie, Jamie Mackriel, Boitumelo Skosana, Kelvin Yang

Blockchain-based carbon credit trading system

Kayla Brown, Ravendran Govender, Kirin Maharaj, Maree Peterson

Uber for Barbers and Barber Shops

Uthmaan Baboo, Saffiya Ebrahim, Layyaan Satardien, Lloyd Wingrove

NFT Incentive Program

Isma-Eel Adams, Savannah Althoff-Thomson, Intisar Constant, Robert Walton

Feral Cat tracking and monitoring system

David Pullen, Farouk Ebrahim, Stefano Fernandes, Katie McLaughlin

Build a micro-financing platform that connects to Upskill (e-learning)

Mogammad Brinkhuis, Tinashe Sibada, Laila Salie, Faraz Wazar

Key Entry Management System (Contactless Access to Properties)

Yusri Damon, Kelly Kunaka, Salma Noor Mahomed, Rustim Williams

Reporting Scheduler and workload Management System

Shaylin Foflonker, Saleem Satardien, Callum Simpson, Ethan Slamet

Limited Run Consignment Portal

Furqaan Ajmoodien, Goosain Allie, Athir Fayker, Kyle Poggenpoel

Information Systems Third Year Projects

Vehicle Collection System

Ryan Davies, Siphokazi Khuzwayo, Tauqeer Parker, Alwaba Gweba

Finance Management System – IMIJELO

Nosipho Mbatha, Jordan Young, Hopewell Fakude, Meriam Kakuwaezi

Presentation Automation Marking System

Sane Mhloma, Patsy Mboumba, Leswene Mphahlele, Dylan Sebastian

Hubble Tech Project

Naadhira Sterras, Ryan Stoddart, James Clark, Chumani Vinjwa

Saldanha Bay Citizens Science Tool

Gabriel Brozin, Maree Petersen, Elvis Inacio, Liam McMaster

Nova HR

Deen van Eeden, Prishani Govender, Kayley Marques, Nicholas Munro

Stock Order Prediction System

Nyiko Mashakeni, Bernard van Aswegen, Gabriel Flint, Matt Cronson

Product Clustering System

Naseera Benjamin, Farzeen Banderker, Asithandile Gungqisa, Londiwe Maphumulo

Research Topics Management Systems

Inge Tripod, Kathleho Motlounge, Mbali Arosi, Finn Massari

African NFT Marketplace

Jack Scott-King, Max Coleman, Ethan Swanepoel, Jennifer van Niekerk

Postgraduate Projects

Postdoctoral Fellow

Bernard Akhigbe: Investigating the Intersection of Search and User eXperience

PhD

Frances Gillis-Webber: Modelling Localised Representation of an Owl Ontology.

Francois Meyer: Subword Segmental Language Modelling for Nguni Languages.

Guidance Mthwazi: The Influence of Electronic-Governance on Public Service Delivery.

Johan Bontes: Funambulist: optimise hard problems with MaxSAT local search.

Katazo Amunteke: Improving knowledge sharing among Namibian government ICT employees

Khanyisa Malufu: Consumer Choice of Digital Payment Methods with Multiplicity of Channels.

Mary-Jane Antia: A Corpus-based Method for Authoring Competency Questions in Ontology Engineering.

Mbithe Nzomo: An Agent-Based Framework for Precision Health.

Rebecca Njuguna: Designing an ICT tool for indigenous finance institutions in Africa.

Sello Ralethe: Injecting Commonsense Knowledge into Pretrained Language Models For Low Resource Languages.

Toky Hajatiana Raboanary: Generating Questions, Answers and Feedback from Ontologies.

Tezira Wanyana: A Cognitive Agent Architecture for Knowledge Discovery and Evolution (KDE)in Sensor-based Systems

Masters

Alex Priscu: Using AutoML Optimisation Techniques to Solve the CASH Problem in Time Series trend Prediction.

Ashley Nash Chakanyuka: Exploring Attention Mechanisms in Spatial-Temporal Graph Neural Network.

Brandon Gower-Winter: Simulating Artificial Societies using Machine Learning.

Dieudonne Munganga: Internet transparency in Developing African Regions: Case of the R Congo.

Gordon Beckenstrater: Predicting Mergers and Acquisitions using Machine Learning.

Keegan White: Machine Learning Driven QoS Management in Low-resource SDNs.

Khalid N. Elmadani: University of Cape Town's WMT22 System: Multilingual Machine Translation for Southern African Languages Classification.

Leonard Chuang: Load Profile Analysis with Deep Autoencoders.

Luc Hayward: Few-Shot Semantic Segmentation for Heritage Pointclouds.

Lynolan Moodley: Nature Pill Investigating the Effects of Nature Simulation in Virtual Environment on Stress Reduction.

Ndinelao Iitumba: CoLRN: Community-based Visions for Local Resilient Networks.

Rhett Flanagan: Evolutionary Origami Robots.

Sharifa Negesa: A Choose-Your-Own-Adventure (CYOA) Self Learning Tool For Health Workers.

Sindiso Mkhathshwa: Robot Factories for Tailor-Made Robots.

Steve Wang: Defeasible Justification using the KLM Framework.

Toshka Coleman: Co-designing Community-based Digital Initiatives for Maternal and Child Health (MCH).

Tumelo Makgaka: Investigating the Performance of Browser- Based On-Device Personal Digital Libraries.

Zebiao Wu: A Monocular Vision Sensor-based UAV View Planning System for 3D Reconstruction of Cultural Heritage Monuments.