

RUTH KRAVIS

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EDUCATION

The Australian National University 2016 - 2021

B.Eng (Research & Development) in Systems Engineering, major in Mechatronics

B.A with major in Philosophy and minor in Economic Studies

Exchange student in D-ITET at **ETH Zürich**, Sep 2019 – Feb 2020.

University of California, Berkeley 2022 – 2027 (estimated)

2022 PhD admit in the Department of Electrical Engineering and Computer Science (EECS)

HONOURS AND AWARDS

American Australian Association Graduate Education Fund Scholarship 2022

Awarded to support travel, living, tuition and other educational costs.

Gateway Fellowship at International House (UC Berkeley) 2022

Awarded the Chevron- Xenel PhD Gateway Fellowship. The fellowship provides paid room and board at International House Berkeley. Applicants are nominated by the corresponding academic department.

Rolf G. Locher Endowed Fellowship (MIT) (declined) 2022

Fellowship supporting first year of EECS PhD program at MIT.

University Medal (ANU) 2021

The University Medal recognises students who have obtained First Class Honours and demonstrated exceptional academic excellence across their studies.

Ian Ross Honours Scholarship (ANU) 2021

The objective of the award is to encourage high performing the College of Engineering and Computer Science Honours student's ongoing academic achievement.

Exchange Scholarship (ETH Zürich) 2019

This scholarship supported living costs associated with exchange at ETH Zürich.

New Columbo Plan Grant (ANU) 2019

The New Colombo Plan Mobility Program provides funding to Australian universities to support Australian undergraduate students' participation in study and research in 40 host locations across the Indo-Pacific region.

Lisa Brodribb Women in Engineering Scholarship (ANU) 2018

The Lisa Brodribb Women in Engineering Scholarship is awarded based on academic merit to a female student enrolled full-time in the BEng or BEng (Research and Development) program.

Chancellor's Letter of Commendation (ANU) 2017

The Chancellor's Letter of Commendation recognises academic performance over a calendar year at a High Distinction level.

RESEARCH

Honours Thesis, ANU, Canberra 2020 to 2021

Supervisors: Dr. Elizabeth Ratnam, Professor Ian Petersen

- Title: *Understanding Voltage Stability in Distribution Networks*
 - Analysis of nonlinear dynamic load model and identification of limitations under distribution network assumptions
 - Development of a novel load model that demonstrates voltage instability
 - Optimisation of new model parameters and benchmarking against original model

Undergraduate Thesis, ANU, Canberra 2018 to 2019

Supervisors: Professor Jochen Trumpf, Mr. Sean O'Brien

- Title: *What makes a good dataset for light-field camera calibration?*
 - Experimental design and dataset collection using Lytro Illum and Raytrix R42 cameras, utilising a novel calibration algorithm.
 - Analysis of the influence of specific dataset properties on calibration metrics.
 - Investigation of whether calibration metrics predict performance in a real-world depth-estimation task.

Undergraduate Thesis, ANU, Canberra 2017

Supervisor: Associate Professor John Pye

- Title: *CSP + agriculture hybrid systems: Sundrop Farms Integrated Energy System*
 - Literature review of modelling techniques for combined agricultural, desalination, and energy systems.
 - Identification of key parameters influencing feasibility of integrated energy system solution

EXPERIENCE

Battery Storage and Grid Integration Program, ANU, Canberra 2021 to present

Research Assistant under Professor Lachlan Blackhall

- Development of a python-based optimiser for modelling energy and commodity networks
- Application of optimiser to university campus decarbonisation

ITP Renewables, Canberra 2018 to 2021

Graduate Engineer

- Techno-economic feasibility studies for renewable energy systems in Pacific Island Countries and Australia
 - Analysis of technologies such as solar PV, battery energy storage systems, diesel generation, and pumped hydro.
 - Range of private and public sector projects.
- Preparation of proposals and report writing.

Undergraduate Engineer

- Administration of compliance inspection programs and energy efficiency audits across Australia, application of AS/NZS 3000, 4777, and 5033.

TEACHING

The Australian National University, Canberra Australia
Casual Sessional Academic, Research School of Engineering

May 2018 to present

- Courses taught:
 - Introductory Electronics, System Design, System Analysis, Project Management, Operations Research, Control Systems, Capstone Group Project
- Teaching workshop-style classes with up to 80 students, as well as tutorial-style classes, in person, online, and hybrid mode, with up to 25 students.
- Led a tutoring team comprised of six PhD students as head tutor
- Marking report-style assessments, exams, and oral presentations.

PUBLICATIONS

Conference Papers

R. Kravis, E. Ratnam, I. Petersen, “Voltage Stability Studies for Distribution Networks: Assessing Load Dynamics”, 2021 IEEE PES Innovative Smart Grid Technologies Asia (ISGT-Asia), 2021, in press

Journal Publications

Sharma, A.; Bodger, C.; Elahi, A.; Halbich, R.; Jyoti, H.; Kennedy, R.; Kravis, R.; Law, B.M.-Y.; Li, A.; Lim, D.; Lu, E.; Luu, C.; Patajo, A.; Sigal, A.; Wells, V.; Browne, C.A. Shared Learning from the Implementation of a Technical Leadership Program. Sustainability 2021, 13, 6433. <https://doi.org/10.3390/su13116433>

Other

Contribution to upcoming Anthropology textbook, being published by Routledge in 2022.

OTHER

Coding: python, MATLAB, HOMER-Pro, Opal-RT

Languages: English (native)

Student Member: Engineers Australia, IEEE Power & Energy Society, IEE Special Interest Group on Humanitarian Technology

REFERENCES

Professor Lachlan Blackhall

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School of Engineering
Australian National University
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Distinguished Professor Genevieve Bell

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School of Cybernetics
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