Jordan Inturrisi

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RESEARCH INTERESTS

- Combining CNNs, RNNs, and external memory modules for vision, NLP and time-series
- Deep Learning; supervised learning, wanting to explore reinforcement learning
- Optimisation of training neural networks, particularly to overcome vanishing gradients

HONOURS & AWARDS

– Australian Postgraduate Award	Australian Government	2017 – ongoing
– Nvidia GPU Grant Program	Nvidia	2017
– GPU Computing Support Program	Xenon & CSIRO	2017
– Dean's Scholars Program	Deakin University	2013 – 2016
– Godfrey Hirst Australia Award (Graduated with highest honours grade)	Godfrey Hirst	2016

EDUCATION

Deakin University, Melbourne, Australia **2017 – ongoing**
Master of Engineering (M.Eng)
- Interests: Deep Learning, Computer Vision, Recurrent Networks
- Supervisors: Dr. Suiyang Khoo, Prof. Abbas Kouzani, Dr. Riccardo Pagliarella

Deakin University, Melbourne, Australia **2013 – ongoing**
Bachelor of Commerce (B.Comm)
- Major: Economics
- GPA: 4.0/4.0; Weighted Average Mark: 89.67%

Deakin University, Melbourne, Australia **2013 – 2016**
Bachelor of Engineering (B.Eng) (Hons.), graduated summa cum laude
- Major: Electrical & Electronic Engineering
- Thesis: Nonlinear time series prediction using recurrent neural networks: A case study on short-term load forecasting (https://tinyurl.com/yc629f6t)
- Supervisors: Dr. Suiyang Khoo, Dr. Riccardo Pagliarella
- GPA: 4.0/4.0; Weighted Average Mark: 91.69%

Victoria Point State High School **2009 – 2012**
Queensland Certificate of Education, OP 2 (ATAR 98.5)
- Subjects: Mathematics, English, Biology, Chemistry, Accounting

PROJECTS

AFL Brownlow Medal Predictor **2017 – ongoing**
- AFL's highest individual honour. Field umpires award votes to top 3 players (out of 44)
- Using data from 2500+ past matches with 50+ inputs, train deep neural classifier to determine probability each player polls 3-, 2-, 1-, or 0-votes in each game
- Top 5 ranked players: 91% of all 3-votes, 80% of all 2-votes, and 66% of all 1-vote
- Successfully ranks, 3-votes: 57%, 2-votes: 28%, 1-vote: 20% of the time
- Competitive with current known industry-best

Stock Market/Cryptocurrency Predictor **2017 – ongoing**
- Using technical and macroeconomic indicators as inputs, train RNN to predict future values
- In future, setup an automated portfolio management system to automate trading strategies

Macro Electricity Consumption **2016 – ongoing**
- Forecasted total macro electricity demand at 30-minute and 24-hour prediction windows
- Compared to Australian Energy Market Operator (AEMO) reduced average error by 39%, standard deviation by 46%, and maximum error by 44%, predicting at 30-minute intervals
- AEMO operates Australia's largest gas/electricity markets and power systems

Residential Electricity Consumption **2016 – ongoing**
- Forecasted residential electricity demand at 30-minute and 24-hour prediction windows
- Achieved: 80-90% accuracy for 30-minute windows; 60-80% accuracy for 24-hour windows

RESEARCH EMPLOYMENT

Machine Learning Consultant, Sole Proprietor **2017 – ongoing**
- Simulate residential energy demand for Australia's largest renewable energy provider
- Using historical demand, weather, temporal data as inputs to deep RNN

Research Assistant, Deakin University **2015 – 2016**
- Collaborated with School of Engineering academics on confidential autonomous UAV project
- Researched and recommended optimum energy storage solution
- Developed RPM feedback system along with master-slave communication with Arduino
- Designed and manufactured prototype voltage regulator board

TEACHING EXPERIENCE

Lecturer, Deakin College **2017 – ongoing**
- SEJ102: Electrical Systems Engineering Project, MIS171: Business Analytics
- Lecturer, tutor, lab demonstrator, marker

Senior Maths Mentor, Deakin University **2016 – ongoing**
- Mentored students to become independent learners
- Subject areas include: (applied) maths, engineering, commerce, cryptography, and physics
- 100% increase in attendance trimester-on-trimester-on-trimester

Senior Peer Assisted Study Session (PASS) Leader, Deakin University **2014 – 2016**
- Facilitated peer-to-peer learning by organising content-specific workshops in Commerce
- Mentoring, educating, and training upcoming leaders on the "PASS" methodology
- Increased: pass rate by 27%, average grade by 28% (after attending 5+ sessions), and students achieving distinction or greater (70%+) by 107%

PUBLICATIONS

1. **J. Inturrisi**. Nonlinear time-series prediction using recurrent neural networks: A case study on short-term load forecasting. Undergraduate Thesis, Deakin University, Geelong, Australia. 2016. (https://tinyurl.com/yc629f6t)
2. **J. Inturrisi**, S. Khoo, and R. Pagliarella. Nonlinear time series prediction using recurrent neural networks. GTCx, Melbourne, Australia. 2016. (https://tinyurl.com/yambryhf)

INTERESTS

Australian Rules Football, surfing, snowboarding, programming, cryptocurrency & stock trading
Programming: Python, Tensorflow, Keras, MATLAB, C, C++, Linux

ADDITIONAL INFORMATION
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OTHER HONOURS & AWARDS

– Outstanding Contribution to EEE (Most impressive EEE capstone project)	Deakin University	2016
– Viva Energy Refinery Award (Most outstanding capstone project)	Viva Energy Australia	2016
– Engineers Australia Award (Highest academic performance in final year)	Engineers Australia	2016
– Male School Captain	VP State High School	2012
– Caltex Best All-Rounder (Acknowledging contributions to community)	VP State High School	2012
– AFL Academy Captain	VP State High School	2012
– AFL Academy Team Player of the Year	VP State High School	2012
– Pierre de Coubertin Award	VP State High School	2012
– Valedictorian	VP State High School	2012
– Academic Dux	VP State High School	2009 – 2012
– ADF: Long Tan Leadership & Teamwork Award	VP State High School	2011

PROFESSIONAL EMPLOYMENT

Innovation & Experience Engineer, Telstra **2015 – 2016**
- UX-Lead for T-Connect: portal for enterprise customers streamlining offerings, reducing lead times up to 80% and reducing OPEX through automation
- Liaised with customers to identify needs when managing Telstra products
- Assisted managing the developer team per agile project management best-practice
- Established UX/CX design principles for developing an enterprise self-service portal

Telemetry & Control Engineer, Barwon Water **2014 – 2015**
- Lead a small team in upgrading and monitoring over 300 operational sites
- Programmed remote "station disable/enable" functionality into 182 pump stations
- Assisted commissioning a new inlet grinder and screen as well as a new water storage tank

Accounts Assistant, Corio Waste Management **2012 – 2016**
- Managed accounts payable, accounts receivable, and daily banking
- Completed general ledger, balance sheet, and bank reconciliations
- Identified services yielding low revenue for management to utilise, improving efficiency
- Developed forecasted profit/loss and cash flow analysis during acquisition analysis

REVIEWING EXPERIENCE

Primary Reviewer: The Asian Control Conference (ASCC), 2017

PROFESSIONAL SERVICE

Treasurer, Deakin Engineering Society 2016
- Provided treasury advice; maintained financial records; prepared and managed $45k budget
- Assisted in organising high-quality events, along with optimised pricing, leading to: 30% increase in membership, 30% increase in revenue, and 120% increase in profit

Treasurer, Engineers Without Borders – Deakin Chapter 2016
- Provided treasury advice; maintained financial records; prepared and managed $4k budget
- Under new leadership we achieved: 50% increase in membership, and 84% decrease in loss

Head of Electronics & Head of Business, Deakin Shell Eco-Marathon 2015 – 2016
- Global challenge to design, build and drive ultra-energy-efficient vehicles
- Lead multidisciplinary team to develop data-centric electronic instrument cluster
- We improved year-on-year performance by 88% from 281km/L to 528km/L
- Organised sponsorship with carbon-fibre manufacturer, Carbon Revolution

Peer Support Network Leader, Deakin University 2015 – 2016
- Mentoring new students during their transition to university

Students Helping Students Mentor, Deakin University 2015 – 2016

MEMBERSHIPS

- Engineers Australia
- IEEE Membership
- Engineers Without Borders
- Golden Key International Honours Society
- Beta Alpha Psi International Honours Society