

Vipula Dissanayake

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PERSONAL STATEMENT

PhD candidate and an engineer with 3+ years of experience in software engineering and machine learning in multiple countries (NZ, Singapore, and Sri Lanka). Passionate in applying machine learning techniques and algorithm development to solve real-world problems. Over 4 years of successful ML research experience (PhD & MEng) in solving practical problems using representation learning and self-supervised learning techniques on speech and wearable signals. Proven in delivering quality output with tight deadlines and collaborating effectively with the team members.

QUALIFICATIONS

The University of Auckland

Auckland, New Zealand

2019 - Present

Doctor of Philosophy

Thesis title: "Towards Emotion Recognition in the wild."

- ML research work to overcome limitations of generalisability and robustness with human emotion recognition in real-life using speech and physiological signals
- Train multimodal self-supervised learning models for physiological signals
- Exploration of fusion mechanism for pretrained signal representations
- Build ML pipeline to conduct experiments
- Android app development with embedded emotion recognition models
- Conduct user experiments
- Publish research outcomes in internationally recognised journals and conferences

DeepLearning.ai

Coursera, Online

2019 - Present

Natural Language Processing (NLP) Specialisation

NLP with Classification & Vector Spaces, NLP with Probabilistic Models, NLP with Sequence Models, NLP with Attention Models

Machine Learning Engineering for Production (MLOps) Specialisation

ML in Production, ML Data Lifecycle, ML Modeling Pipelines, Deploying ML Models

Deep Learning Specialisation

Neural Networks and Deep Learning, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models

The University of Auckland

Auckland, New Zealand

2018 - 2019

Master of Engineering (Hons.)

Thesis Title: "CompRate: Towards Continuous Sensing of Heart Rate and Heart Rate Variability using Built-in Accelerometer of Smart Wearable."

- Develop ML algorithms (Neural Network, Decision Trees, Linear Regression, Support Vector Machine, XGBoost) to estimate heart rate signals using built-in accelerometer signals in wearable devices
- Publish research outcomes in internationally recognised conference

The University of Moratuwa

Moratuwa, Sri Lanka

2011 - 2016

Bachelor of Science of Engineering (Hons.)

Specialised in Computer Science and Engineering

WORK HISTORY

The University of Auckland

Auckland, New Zealand

Jun 2018 - Nov 2020

Professional Casual Staff (Software Engineer)

Responsible for software design & development at the Augmented Human Lab

- Design and development of Virtual Reality (VR) applications with Unity3D and deploy on Android and iOS
- Design and development of mobile applications using Flutter, Firebase and Android
- Web application development using NodeJS, Java Spring Framework
- Client engagement for requirement gathering, feature validations and deployment
- Code quality enhancement and maintaining the system stability as architecture evolves

Singapore University of Technology and Design

Singapore, Singapore

Sep 2017 - Feb 2018

Research Assistant (Software Engineer)

Software engineering work contributing to a finger-worn intelligence device named FingerReader

- Design and implement the cloud-backend system interfacing in-house machine learning models and 3rd party machine learning services
- Implement REST API for the cloud-backend
- Collaborate with hardware engineers to identify and fix technical problems
- Manage Google Cloud platform
- Carry out deployment and maintenance of the backend system
- Optimise existing code segments in the system through code reviews
- Present prototype system at professional events

CodeGen International

Colombo, Sri Lanka

Aug 2016 - Aug 2017

Software Engineer

Worked in Research & Development department contributing to system design and implementation

- Initiating and leading the conversational agent project team to design and implement the PoC system
- Perform code and design reviews to improve the code quality of the assets
- Design and implement a prototype system to reach new clients within a short period
- Research on discourse analysis and the context-awareness of a conversational system
- Submit quick workarounds, analyse, and fix internal and external issues
- Interview candidates

CodeGen International

Colombo, Sri Lanka

Oct 2014 - Apr 2015

Software Engineering Intern

Industrial training programme provided on 6th semester of University of Moratuwa

- Research and develop an automated web data retrieval tool using a machine learning system (SVM)
- Built a mini-hotel reservation system

TECHNICAL SKILLS

- Machine Learning - TensorFlow, Keras, DialogFlow, scikit-learn, R
- Databases - MySQL, MongoDB, PostgreSQL
- Mobile Development - Android, Flutter, Firebase
- Dev tools - Git, Gradle, Maven
- Programming Languages- Java, Python, JavaScript
- Frameworks - Spring Framework
- Cloud Platforms - Google Cloud

RESEARCH PUBLICATIONS

Research publications of outcomes of PhD, ME and BSc research works are available in the [Google Scholar author profile](#).

REFEREES

Referees are available on request.