NUS National University of Singapore | Advanced Computing for Executives
School of Computing

29th January 2024

BHAVISHYA SHARMA
VELLORE INSTITUTE OF TECHNOLOGY
VELLORE

Dear Bhavishya Sharma,

Subject: Letter of Evaluation

This is with reference to the Global Academic Internship Programme (GAIP) conducted by Corporate Gurukul from 16th December 2023 to 6th January 2024 on 'Big Data Analytics using Deep Learning'. The course work for internship included the following:

- Introduction to Data Analytics
  - What is Data Analytics
  - Types of Data Analytics
  - Data in Data Analytics + Decision Models – Data Mining Process
  - Exploratory Data Analysis
  - Data Visualization
  - Data Querying
  - Statistical Methods for Summarizing Data – Exploring Data using Pivot Tables

- Descriptive Statistical Measures
  - What is Descriptive Analytics?
  - Populations and Samples
  - Measures of Location
  - Measures of Dispersion
  - Measures of Shape
  - Measures of Association

- Regression
  - Introduction to Regression Analysis
  - Simple Linear Regression
  - Multi Linear Regression
  - Stepwise Regression
  - Coding Scheme for Categorical Variables
  - Problems with Linear Regression

- Introduction to Classification
  - Classification
  - Decision Trees
  - Bayesian Classifier
  - Logistic Regression
  - Support Vector Machine
  - Separating Hyperplane
  - Maximal Margin Classifier
  - Support Vector Classifier
  - Resampling Methods

- Introduction to Clustering
  - Affinity Measures and Partition Methods
  - K-means
  - K-medoids
  - Hierarchical Methods

  Introduction to Association
  - Structure and Representation of Association Rules
  - Strong Association Rules and the Concept of Frequent Item sets
    – Apriori Algorithm
    – FP Growth
    – Time Series Analysis

- Introduction to Text Mining
  Text Mining Terminologies
  Text Mining Concepts
  Text Mining Process
  Knowledge Extraction Methods for Text Mining
  Classification
  Clustering
  Association

- Artificial Neural Networks (ANN)
  Introduction
  Perceptron's and Activation Functions
  Building Blocks of Neural Networks (Input, Hidden, Output layers)
  Hands-On Exercise: Building a Simple Neural Network (XOR Problem)
    - How to develop ANN using TensorFlow

  Back-propagation
    - Gradient Descent, Momentum, Learning Rate, Overfitting

- Convolutional Neural Networks (CNN)
  Convolution, pooling operations
  Popular CNN architectures
  Applications of CNN in Python

- Recurrent Neural Networks (RNN)
  Vanilla RNN
  LSTM and GRU
  Applications of RNN in Python

- Reinforcement Learning
  Introduction
  RL Algorithms
    - Dynamic Programming (DP)
    - Monte Carlo Methods
    - Temporal-Difference Learning (TD)

  Implementing RL algorithm using Python

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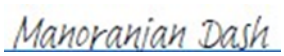
Your performance in GAIP was evaluated based on theoretical understanding and application of concepts in practical data analysis with GRADE A.

We encourage you to further your knowledge, skills and research in the above areas and wish you the very best for a career ahead!

Sincerely,



Dr Tan Wee Kek
Associate Professor
School of Computing
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Dr Manoranjan Dash
Senior Data Scientist
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TRANSCRIPT

GLOBAL ACADEMIC INTERNSHIP PROGRAMME – DECEMBER 2023 BIG DATA ANALYTICS USING DEEP LEARNING	
Name: BHAVISHYA SHARMA	Date: 29th January 2024

Assessment Component	Score	Topic/Parameter
In-Class Assessment	20/40	Introduction to Data Analytics and Descriptive Statistical Measures
	32/40	Introduction to Regression Analysis and Classification
	36/40	Introduction to Clustering and Text Mining
	36/40	Artificial, Convolutional Neural Networks and Recurrent Neural Networks
Final Comprehensive Assessment	44/72	Comprehensive Assessment for the Course
Project Assessment	41/50	Final Project Work

	Assessment			Overall Percentage (Out of 100%) 76
	In-Class Assessment	Final Comprehensive Assessment	Project Assessment	
	30% weightage	20% weightage	50% weightage	Grade
Percentage	23/30	12/20	41/50	A
Faculty Assessor Signature				-
Faculty Assessor Name	Dr Tan Wee Kek	Dr Manoranjan Dash		-

Grading Guideline:

O	100 - 90	B+	59.9 - 55
A+	89.9 - 80	B	54.9 - 50
A	79.9 - 70	B-	49.9 - 45
A-	69.9 - 60	C	44.9 - 40
		F	<40