Ariunzaya Gantulga

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ABOUT ME

I am currently a graduate student at Changwon National University's Department of Computer Engineering. My area of interest in research is the classification of biological data using deep learning and machine learning.

Area of interest:
Machine learning and deep learning

WORK EXPERIENCE

Research student

Changwon National University [02/03/2021 – Current]

City: Changwon
Country: South Korea

As a full-time research student, I studied biological data identification and classification analysis. I was thus recognized and classified through the use of scanning electron microscopy (SEM) images in collaboration with the Departments of Biology & Microbiology and Computer Engineering. The task was completed by gathering information from various publications and then preprocessing the images. In addition, I did two main tasks. These include the categorization of seed coat pattern images and the creation of new groups based on seed coat pattern images. First, I defined the seed coat pattern and classified it using the popular deep learning network. Second, fresh grouping was conducted using unsupervised machine learning on the preprocessed images. The following are included: MATLAB, Python

Front-End Developer

DDISH LLC [01/08/2019 – 17/02/2021]

City: Ulaanbaatar
Country: Mongolia

Purpose: CEC is to provide customer service and support in each of the above channels, by implementing various technologies and business applications. What distinguishes a CEC is its ability to retain context about customers as they move across channels while offering a personalized and engaging experience.
Team: requirement team, IT manager, back-end developer, and front-end developer.
My contribution: After the 3-month experimentation period, I worked as a front-end developer at CEC. The previous call center system was developed based on the PHP Symfony framework. After that, a new system called the CEC was developed. The system consists of modules such as agent information, customer information, booking, chatbot, in-call, out-call, etc., and coordinates the activities of more than 50 operators. Compared to the previous system, the appearance and call load capacity are both better. The following are included: JavaScript (ReactJS), HTML, CSS, and Material UI

Software developer

DDISH LLC [17/06/2019 – 01/08/2019]

City: Ulaanbaatar
Country: Mongolia

Purpose: Call centers are an integral bridge between a company and its customers. In this case, the call center manager or senior operator monitors agent performance and tracks the status of their business processes. KPIs are measureable values that show how effectively a call center is able to meet its business goals and targets.
Main information about the IT department: It consists of the call center team, a billing system team, a web application team, a mobile application team, company-specific systems like an ERP system, a chatbot, a promotions team, etc.
My contribution: I joined the call center team when I first started working for the company as a software developer. Initially, during the three-month experimentation period, I had to create an automation for the call center system's KPI module because the manager or senior operator manually set the KPIs for the operators. Therefore, creating a KPI automation module was essential. Considering the sections of the module: successful call per day, abandoned call per day, customer satisfaction for in-call and out-call, etc.
While working at the organization, I was challenged by the unknown and new technologies. The following are included: PHP Symfony Framework, SQL, HTML, CSS

Intern

Machine Intelligence Laboratory [01/06/2018 – 01/07/2018]

City: Ulaanbaatar
Country: Mongolia

Purpose: Understanding the fundamentals of NLP.
My contribution: My internship taught me the basic concepts of natural language processing (NLP) and the difference between word similarity and distance-based cosine similarity using Java.

EDUCATION AND TRAINING

Bachelor of Engineering

National University of Mongolia [01/09/2015 – 21/06/2019]

Address: Sukhbaatar District, Ikh Surguuliin Street - 1, Baga Toiruu, Ulaanbaatar, 14200 Ulaanbaatar (Mongolia)
Website: https://www.num.edu.mn/
Field(s) of study: Information and Communication Technologies: *Software and applications development and analysis*
Final grade: 3.1/4.0 – **Level in EQF:** EQF level 6
Thesis: Mongolian WordNet

Throughout my engineering bachelor's program, I studied a variety of technical programming languages and gained knowledge of the fundamentals of engineering.

Master of Engineering

Changwon National University [02/03/2021 – Current]

Address: 20 Changwon Daehak-ro, Uichang-gu, Changwon-si, Gyeongsangnam-do, 51140 Changwon (South Korea)
Website: https://www.changwon.ac.kr/
Field(s) of study: Information and Communication Technologies: *Software and applications development and analysis*
Final grade: 3.8/4.5 – **Level in EQF:** EQF level 7
Thesis: Identification and Classification of Seed Coat Sculptures using Deep Learning
Link: https://drive.google.com/file/d/1jTD0eYk7P-SrrqV2mv8H65i6vo08YE9q/view?usp=sharing

In my master of engineering degree, I proposed my own research methodologies and had a thorough understanding of computer science concepts.

PUBLICATIONS

A multi-considered seed coat pattern classification of Allium L. using unsupervised machine learning

[2022]

Ariunzaya Gantulga et al., Plants 2022, 11(22), 3097
Link: https://doi.org/10.3390/plants11223097

Identification of Seed Coat Sculptures using Deep Learning

[2022]

Ariunzaya Gantulga, Jonathan CL Kavalan, and Sungwook Chung, Journal of Asia-Pacific Biodiversity
Link: https://doi.org/10.1016/j.japb.2022.11.006

CONFERENCES AND SEMINARS

Color-Blind Image Correction

[Ulaanbaatar, Mongolia, 14/08/2017 – 18/08/2017]
Link: https://drive.google.com/file/d/1Ph9ljgevUVqVO-BXZCWks4uRNY4hodSK/view?usp=sharing

HONOURS AND AWARDS

Foundation of User Experience (UX) Design

Coursera [25/06/2022]

User experience (UX) design is a fast-growing field with a professional certificate developed by Google. In this course, I learned how to empathize with users, build prototypes and wireframes, as well as conduct user studies to test your designs.

Link: https://coursera.org/share/88d786464ea799d88553a02cec84dc3a

Deep Learning

Deep Learning UB 2018 [06/2018]

My learning experiences included training deep neural networks, identifying key architecture parameters, and implementing vectorized neural networks and deep learning.

VOLUNTEERING

President of Winter National Conference (AIESEC in Mongolia)

[Ulaanbaatar, Mongolia, 01/10/2017 – 01/10/2018]

I worked as a conference president to improve the activity and knowledge of the members. Our team consists of members in marketing, finance, external relations, delegate experience, and logistics.

Vice President Logistic of Summer National Conference (AIESEC in Mongolia)

[Ulaanbaatar, Mongolia, 05/05/2017 – 25/08/2017]

Collected and provided the materials needed for training and delegates. Manage the conference logistics in terms of venue, transportation, materials. Allocate and track all the conference materials for its sufficiency.

Member of Incoming Global Volunteer (AIESEC in Mongolia)

[Ulaanbaatar, Mongolia, 10/03/2017 – 26/08/2017]

This experience taught me how to communicate with my team and international delegates.