



## Ariunzaya Gantulga

**Nationality:** Mongolian **Date of birth:** 20/12/1997 **Gender:** Female

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**Home:** 51140 Changwon (South Korea)

### 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

I worked as a front-end developer at DDISH LLC, a subsidiary of MCS Group, a large Mongolian group. During this time, our company upgraded its previously used call center system. 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

When I first started working at the company as a software developer, the senior operators of the call center system manually set KPIs for the operators. A KPI automation module for call center systems was therefore

urgently needed. I was challenged by the unknown and new technologies while working at the organization. The following are included: PHP Symfony Framework, SQL, HTML, CSS

## **Intern**

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

City: Ulaanbaatar

Country: Mongolia

My internship taught me basic concepts of natural language processing (NLP) and found between word similarity and distance-based cosine similarity using Java.

## **EDUCATION AND TRAINING**

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### **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**

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### **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

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### Color-Blind Image Correction

[ Ulaanbaatar, Mongolia, 14/08/2017 – 18/08/2017 ]

Link: <https://drive.google.com/file/d/1Ph9ljgevUVqVO-BXZCWks4uRNY4hodSK/view?usp=sharing>

## VOLUNTEERING

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### 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.