



Dear Sir or Madam

we invite you to participate in a short 5-10 minutes online survey. We are a group of young researchers from various research organizations. Our research is about reusing artificial neural networks (ANNs) in your projects. The target group of this study are those who are involved in any related activity to the ANNs. Please don't hesitate to forward this invitation to other potential participants. We appreciate your time! Many thanks for participating! Best regards, Javad Ghofrani, Ehsan Kozegar, Arezoo Bozorgmehr, and Mohammad Divband Soorati

Section A: Experience with Artificial Neural Networks (ANN) [STEP1/5]

A1. Have you ever used or implemented any artificial neural networks in any form?

Yes ☐
No ☐

Section B: Most significant experience with ANNs [STEP 2/5]

B1. When was your most significant project with ANNs?

10 years ago or later ☐
5 years ago ☐
2 years ago ☐
One year ago ☐
Less than 3 months ☐
Less than one month ☐

B2. How big is the team that you work with on this project (including yourself)?

Less than 5 people ☐
More than 5 and Less than 10 people ☐
More than 10 and Less than 20 people ☐
More than 20 and Less than 50 people ☐
More than 50 and Less than 100 people ☐
More than 100 people ☐

B3. Did you use any systematic development process(es) in this project?

Ad hoc process (software development as an improvised action) ☐



Classical development process (software development is based on a procedure model with greater administrative complexity, e.g. waterfall-based processes))

☐

Other

☐
▼

Other

B4. In what way did you work at most with ANNs?

Developed a new one from scratch

☐

Developed a new one using libraries and development tools (e.g. using Keras)

☐

Taken an existing one and retrained or extended it (e.g. extend ImageNet for your purposes)

☐

Used a ready one (e.g. use ImageNet for classification)

☐

Section C: Reuse in Artificial Neural Networks (ANN) [STEP 3/5]

C1. How do you define reusability?

Create a general neural network with the aim of using in various contexts (e.g. convolutional neural networks that have been trained on datasets like ImageNet, without any changes)

☐

Modify an existing artificial neural network to adopt it to a specific context

☐

Other

☐
▼

Other

C2. How often do you reuse the following parts related to artificial neural networks?

| | Never | Rarely | Sometimes | Often | Always | No answer |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Parameters (such as weights) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Data-set (train data, test data) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Network structures or substructures (in the form of written code, packages, or libraries) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

C3. What is the most significant source related to artificial neural networks that you reuse for your projects?

Public repositories

☐

Private own collections

☐

Received from colleges

☐

Other developers via private communications

☐



| |
|--|
| |
|--|

First phase of each project

When I don't have enough knowledge about the domain

I know the domain and I am sure that similar work exists

If stakeholder(s) asks for reusing

Other

| |
|--|
| |
|--|

Shallow Artificial Neural Networks (such as MLP, RBM, SOM, RBF etc.)

Deep Convolutional Neural Networks (CNNs)

Deep Recurrent Neural Networks (RNNs)

Deep Generative Adversarial Networks (GANs)

Auto-encoders

Deep Belief Network

Capsule Neural Networks

Other types of Deep Neural Networks

Never Rarely Sometimes Often Always No answer

A diagram of a linked list structure. It consists of six rectangular boxes, each representing a node, arranged horizontally. Each box is divided into two sections: a top section for data and a bottom section for a pointer. The boxes are connected by dashed lines, indicating the sequence of the list. The first box has a dashed line extending from its pointer section to the second box. The second box has a dashed line extending from its pointer section to the third box. The third box has a dashed line extending from its pointer section to the fourth box. The fourth box has a dashed line extending from its pointer section to the fifth box. The fifth box has a dashed line extending from its pointer section to the sixth box. The sixth box has a dashed line extending from its pointer section to the right, indicating the end of the list.

Searching for useful reusable modules is complicated/time consuming

Making modules reusable is complicated/time consuming

Modules are poorly documented, making it difficult to use

It is difficult to find out whether existing modules fulfill the task

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree | No answer |
|-------------------|----------|---------|-------|----------------|-----------|
|-------------------|----------|---------|-------|----------------|-----------|



C7. How important is reuse in your process predominantly?

Not at all important

Slightly Important

Important

Fairly Important

Very important

Other

Other

Section D: Profiling [STEP 4/5]

In this section we ask some information about your work domain

D1. In which country do you work?

Australia

Algeria

Argentina

Brazil

Canada

China

Czech Republic

Denmark

Dubai

Egypt

France

Germany

India

Iran

Japan

Morocco

Netherlands

Pakistan

Portugal



- Russia ☐
- Spain ☐
- Sweden ☐
- South Korea ☐
- South Africa ☐
- UK ☐
- USA ☐
- Other ☐

Other

D2. What is your field of study (what did you study)?

- Art ☐
- Computer Science ☐
- Engineering ☐
- Human Sciences ☐
- Medicine ☐
- Other ☐

Other

D3. How many years of experience / background do you have with artificial neural networks?

- Less than 6 months ☐
- Between 7 and 12 months ☐
- Between 1 and 2 years ☐
- Between 2 and 5 years ☐
- Between 5 and 10 years ☐
- More than 10 years ☐



D4. When was the last time that you have worked with artificial neural networks?

- Less than one month ☐
- Less than 3 months ☐
- Less than one year ago ☐
- 2 years ago ☐
- 5 years ago or later ☐

D5. In which context/purposes do you have experience with artificial neural networks?

- Research ☐
- Teaching ☐
- Industrial ☐
- Private ☐
- Hobby ☐
- Artistic ☐
- Other ☐

Section E: Final step [STEP 5/5]

E1. If you have any suggestion or comment about our survey, please write it down!

E2. Are you interested in the results of this survey?

- Yes ☐
- No ☐

E3. Can we come back to you for more questions?

- Yes ☐
- No ☐



E4. Please insert your email address to get the survey results/ more questions.

