## **Product Vision**

## Neronet

Project 2
Toolbox for managing the training neural networks (Pyry Takala)

CSE-C2610 Software Project Aalto University

November 2, 2015

## Product Vision

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Why

What

For whom





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Currently available state-of-the-art tools and systems for computational research could be improved.



Researchers are slowed down by lack of good easy tools for practical everyday difficulties like

managing a queue and history of different experiments



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- monitoring and controlling progress of ongoing experiments



Why - business view

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- getting information about the computing environment
- monitoring and controlling progress of ongoing experiments
- analysing and comparing the results of experiment variations



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This leads to ineffective use of man and machine hours.

Aalto University School of Science and Technology The product's goal is to enable easy

- 1. specification of experiments and management of queues
- 2. batch submission of experiment jobs to computing clusters



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- batch submission of experiment jobs to computing clusters
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- 4. access to experiment information during and after the run
- configurable notifications on experiment state and progress
- 6. configurable criteria for experiment autotermination

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- 2. batch submission of experiment jobs to computing clusters
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- 5. configurable notifications on experiment state and progress
- 6. configurable criteria for experiment autotermination
- 7. logging of experiment history
- 8. preferences configuration



types.

The goals should be achieved in a generic way suitable for many different computational problem areas and experiment

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Potential extra goals:

- 1. visualisation and analysis of experiment data
- 2. robust multi-user support

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Nonfunctional requirements:

- 1. low computational and memory overhead
- 2. good usability
- 3. easily maintainable and extensible
- 4. open source



For whom

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Why

What For whom

The envisioned users are all individuals who run long lasting computational experiments and appreciate progress feedback. The potential user segments include for instance:

- Deep learning researchers
- Machine learning researchers
- Computational physics researchers
- Data science practitioners
- Enthusiasts & hobbyists

