From the People of Japan

GOVERNMENT OF MONGOLIA

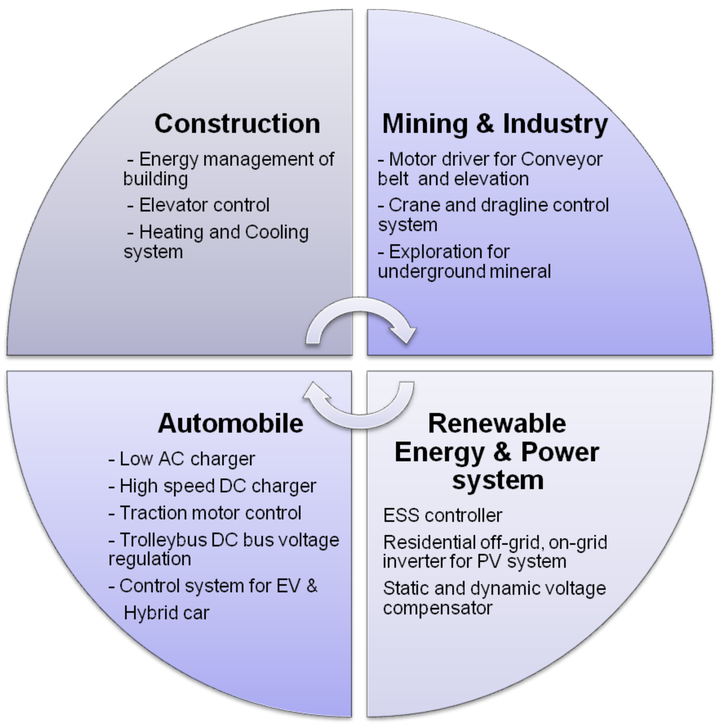
MINISTRY OF EDUCATION AND SCIENCE

J14C16: Research and Development for Power electronics and Industrial automation

Background

Our research project working on research and development of three main sub-topic and they are e-learning, power electronics and industrial automation. Result of the sub-projects include research paper, conference and seminar presentation, patents and small models etc. Also, main results and progress results of the research project are countable. As for the MJEED project, the results can be seen as experimental environment preparation, equipment and tools acquisition for experiment and depending on continuation of academic work of degree and non-degree personnel.

SCOPE OF R&D



RESEARCH TEAM STRUCTURE

研究代表者
モンゴル側研究代表者： D.Bayasgalan准教授（モンゴル国立大学）
日本側研究代表者　　： 宇佐川毅教授（熊本大学）

A. Research and development on engineering education

Team leader:
Lodoiravsal Choimaa

Team members:
- Tsuyoshi Usagawa

B. Research and development on power electronics

Team leader:
Bayasgalan Dugarjav

1. Hajime Miyauchi
2. Toshihisa Shimizu
3. Ichiro Omura

C. Research and development on online learning

Team leader:
Lodoiravsal Choimaa

Team members:
1. Takemi Matsui
2. Gou Koutaki

ACHIEVED RESULTS OF SUB-PROJECTS

R&D of Engineering Education

•大学教育における機械学習技術の活用方法の研究

•A feature extraction tool that extract from parsed data was developed.

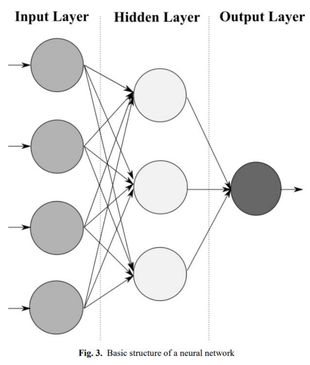
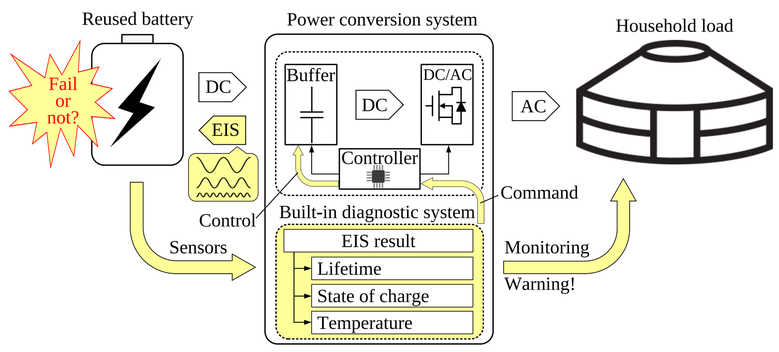


Fig. 3. Basic structure of a neural network

	Name	Definition
x_{201}	number forum responses	Number of forum responses
$^*x_{202}$	average number of submissions percentile	A student's average number of submissions (feature 9) as compared with other students that week as a percentile
$^*x_{203}$	average number of submissions percent	A student's average number of submissions (feature 9) as a percent of the maximum average number of submissions that week
$^*x_{204}$	pset grade	Number of the week's homework problems answered correctly / number of that week's homework problems
x_{205}	pset grade over time	Difference in grade between current pset grade and average of student's past pset grade
$^*x_{206}$	lab grade	Number of the week's lab problems answered correctly / number of that week's lab problems
x_{207}	lab grade over time	Difference in grade between current lab grade and average of student's past lab grade
x_{208}	number submissions correct	Number of correct submisions
x_{209}	correct submissions percent	Percentage of the total submissions that were correct (x_{208} / x_7)
$^*x_{210}$	average predeadline submission time	Average time between a problem submission and problem due date over each submission that week

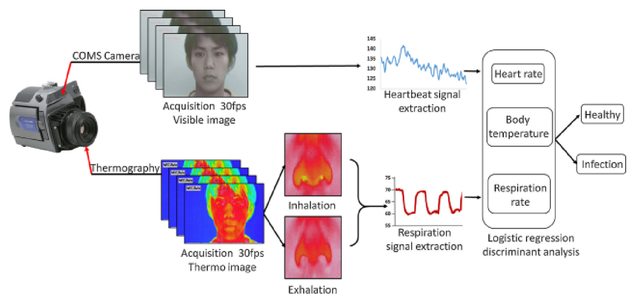
R&D of Power Electronics

- ハイブリッド電気自動車から廃棄されるニッケル水素電池を家庭用エネルギーシステムに再利用するソリューション開発研究

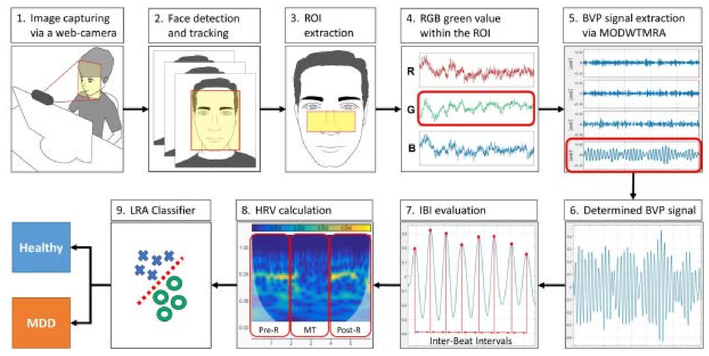


R&D of industry Applications

項目応答理論（Item Response Theory; IRT）を基にした複数のバイタルサインを遠隔で感知し、感染症の疑いのある患者を迅速かつ正確にスクリーニングするための祖ステム開発



大うつ病性障害（MDD）の潜在的な患者の受診率を高めるために、接触型の指先の光電センサを用いたMDDスクリーニングシステムを開発しました。



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