Sistem pengendali neural network berbasis error dengan metode pembelajaran backpropagation = Error based neural network controller using backpropagation learning method / Muhammad Ashari

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Abstrak

[ABSTRAK
Tugas akhir ini membahas mengenai Neural Network yang diaplikasikan dalam simulasi pengendalian plant. Plant yang digunakan adalah Pressure Process Rig 38-714. Pengendali yang digunakan adalah pengendali yang bekerja dengan nilai masukan berupa nilai eror dari nilai keluaran plant yang dibandingkan dengan nilai keluaran referensi. Kesuksesan percobaan ditinjau dari seberapa bagus keluaran plant yang dipasang pengendali ketika dibandingkan dengan sinyal referensinya dan ketahanannya terhadap gangguan. Hasil percobaan menunjukkan NN dengan metode Backpropagation memberikan performa yang baik walaupun diberi gangguan dengan batasan nilai tertentu.
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ABSTRACT
This project discuss about the application of Neural Network in a simulation as a controller of a plant. Pressure Process Rig 38-714 is used as the plant. Error based NN is used as the controller. The controller’s input is the error signal from the output signal of plant compared to reference signal. The success rate is viewed by the similarity of the output of plant compared to the reference signal amd their robustness against noise. The testing result shows that NN based on backpropagation method has a great performance and robustness when there is noise., This project discuss about the application of Neural Network in a simulation as a controller of a plant. Pressure Process Rig 38-714 is used as the plant. Error based NN is used as the controller. The controller’s input is the error signal from the output signal of plant compared to reference signal. The success rate is viewed by the similarity of the output of plant compared to the reference signal amd their robustness against noise. The testing result shows that NN based on backpropagation method has a great performance and robustness when there is noise.]