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List of abbreviation

ICU	Intensive Care Unit
BP	Blood Pressure
ABP	Arterial Blood Pressure
SP	Systolic Pressure
DP	Diastolic Pressure
MAP	Mean Arterial Pressure
AI	Artificial Intelligent
BMI	Body Mass Index
FLC	Fuzzy Logic Control
W	Weight
SNP	Sodium NitroPressude
DPM	Dopamine
FL	Fuzzy Logic

DEDICATION

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Abstract

The objective of this research is to design an intelligent control system, to investigate the advantages of using Fuzzy Logic and neural networks multivariable blood pressure.

Algorithm has been designed, use neural network in learning and fuzzy reasoning stage, was been combined as a proposed system to regulate the blood pressure efficiently as possible. The proposed system work by obtained a blood pressure data from measured system to be inputs for neural network, then network decided the rate of blood pressure are very low, low, normal, high and very high. After hat network give it outputs to be inputs for fuzzy system to decide which rate of drugs must been calculated, then give that output to infusion pump.

This algorithm is applied to multivariable blood pressure control; simulation results show acceptable performance levels.

المستخلص

هذا البحث يهتم بكيفية تصميم أنظمه التحكم الذكية و تحديد مدى جدوى استخدام المنطق الغامض و الشبكه العصبية في التحكم في ضغط الدم متعدد المتغيرات.
تم استخدم الشبكات العصبيه و النظام الغامض في مرحلتى التعلم، يتم دمجهم في نظام اساسي واحد ليقوم بتنظيم ضغط الدم متعدد المتغيرات.

يقوم النظام بالحصول على المدخلات من جهاز قياس الضغط، هذه المدخلات يتم التحكم فيها بولسطه الشبكة العصبيه لتقرر معدل الضغط على انه منخفض جدا، منخفض، طبيعي، مرتفع جدا ، مرتفع . هذا الخرج يعتبر دخل للنظام الغامض ليقرر اي معدل دواء يجب ان يتم حسابه للماكينه التى تقوم بضخ الدواء للمريض.

الخوارزمية التى تم استخدامها لعملية التحكم اعطت نتائج مقبوله في مستويات مختلفة.