شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

Ain Shams University Information Network
جامعة عين شمس
شبكة المعلومات الجامعية
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# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

## يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

**To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%**

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# بعض الوثائق الاصلية تالفة

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# بالرسالة صفحات لم ترد بالاصل

SUEZ CANAL UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

PORT SAID, EGYPT

# AN ARTIFICIAL NEURAL NETWORK BASED-SYSTEM FOR AUTOMATIC GAS RECOGNITION

**BY**

**AWAD MOHAMED MAHMOUD FARAG**

B.Sc. Electrical Engineering

A Thesis

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Electrical Engineering

Under Supervision of

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Ramadan Tenth City, Egypt

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1997

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# SUMMARY

The economic realities of productivity, quality, and reliability for the industrial societies of the 21st century are placing major demands on existing manufacturing technologies. To meet both present and anticipated requirements, new and improved methods are needed. It is now recognized that these methods must be based on the powerful techniques employing computer-assisted systems Full computer compatibility of all components and system must be aimed for.

With the widespread use of the artificial neural networks a complex problems such as image, voice, pattern, and signal processing are ideally done.

Application of the artificial neural network on gas recognition is investigated in this thesis, trying to offer more powerful, and accurate monitoring and recognition system for improving work safety and reducing the downtime

A complete automatic gas recognition system was designed The system include electrochemical gas sensor, A / D card, and the digital computer, beside the necessary circuits for installation and interfacing Software programs have been designed and implemented to perform the tasks of data collecting, and the neural network simulation, training, and testing. Also many software packages are used.