

# Poltak Sihombing

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*Prof. Dr. Poltak Sihombing, M.Kom, Ph.D., was born in Sidikalang (Dairi), on March 17, 1962. He obtained his Bachelor degree from Physics (Computer Concentration Course), Universitas Sumatera Utara in 1988 with a thesis titled, "Penggunaan Micro-System Troubleshooter Pada Instrumen Yang Memakai Mikroprosesor", he then completed his Master study in Computer Science (Universitas Indonesia) in 1999 with a thesis titled, "Sistem Temu-Kembali Informasi Menggunakan Jaringan Syaraf Tiruan dengan Beberapa Ukuran Kemiripan". He then earned his doctorate at Universitas Sains Malaysia Computer Science in 2010 with a dissertation titled, "Keyword Competition Approach in Ranked Document Retrieval".*

*Prof. Dr. Poltak Sihombing, M. Kom, Ph.D. is a lecturer at Fasilkom-TI until now and has served as chairman of the Computer Science Undergraduate Study Program in 2011-2016 and 2016-2021. He is one of the lecturers who actively contributes and participates in several organizations as Secretary General, Assosiasi Pendidikan Tinggi Informatika Komputer Wilayah1 Sumut-Aceh (APTIKOMWIL1) SUMUT-ACEH Medan (2014-2019), Member of Himpunan Fisikawan Indonesia (HFI) Medan (2017-2022), Member of Ikatan Profesi Komputer Informatika (IPKIN) (2018-2023), Head of the North Sumatra Province, Assosiasi Pendidikan Tinggi Informatika Komputer Wilayah1 Sumut-Aceh (APTIKOMWIL1) North Sumatra Province Medan (2019-2024), Member of Anggota Ikatan Ahli Informatika Indonesia (IAII) for North Sumatra Province Medan (2019-2024). He was also appointed as one of the reviewers at the International Conference on Cyber Physical, Computer, and Automation Systems. CPCAS2019*

*Currently, he is pursuing several research fields, including microcontrollers, intelligent systems, information retrieval systems, and the internet of things. Some of his ongoing research (in 2021) include: Tools for Detecting and Controlling Building Security Disruptions With Sim900, Tools for Detecting and Controlling Nutrient Flow of Hydroponic Plants With Esp8266 Circuit Module, Citrus Fruit Sorting Tool Using Tcs320 Sensor and Arduino Uno Microcontroller, Esp8266 Circuit Data Communication Device In Real Time To Detect And Control Heart Rate. In addition, he published two books entitled Visual Basic 6.0 (2017), A-Z MIKROKONTROLLER 8051, Hardware, Interfaces, Programming and Applications (2018).*

*DREAM AS HIGH AS POSSIBLE, AND AFTER DREAMING THERE MUST BE THE BELIEF TO MAKE IT HAPPEN. BELIEVE THAT YOU CAN DO IT. DREAM, BELIEVE, MAKE IT HAPPEN.*

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## Publications

2026

Prosiding seminar internasional

### **A Comparative Approach Using Linear Regression and Random Forest for Modeling Food Crop Production Based on Harvest Area in Kalimantan**

HAYATUNNUFUS , POLTAK SIHOMBING , SALSABILA BALQIS

2025

Jurnal nasional terakreditasi

### **Evaluating the Impact of Model Complexity on the Accuracy of ID3 and Modified ID3: A Case Study of the Max\_Depth Parameter**

HERMAN MAWENGGANG , POLTAK SIHOMBING , MAHYUDDIN , ASRIANDA

2025

Jurnal nasional terakreditasi

### **Sistem Pemantauan Lingkungan Kandang Kambing Berbasis IoT dalam Mendukung Smart Farming pada Arjuna Farm**

RONI YUNIS , POLTAK SIHOMBING , ANDRI , DARWIN , IRPAN ADIPUTRA PARDOSI , YUDHISTIRA ADHITYA PRATAMA , NG POI WONG

2025

Prosiding seminar internasional

### **Development of Distance Measurement Estimation Model for Specific Objects**

2025

Jurnal internasional bereputasi

## **Development of distance formulation for high-dimensional data visualization in multidimensional scaling**

PASKA MARTO HASUGIAN , HERMAN MAWENGGANG , POLTAK SIHOMBING

2024

Prosiding seminar internasional

## **Improving Object Distance Measurement Based on Mono Camera Using Magnification and Yolo Methods**

FAHMI , HERDIANTO , POLTAK SIHOMBING

2024

Prosiding seminar internasional

## **Enhancing Heart Rate Detection Accuracy Through the Kalman Filter Algorithm**

POLTAK SIHOMBING , MAHYUDDIN , MANGASA A.S. MANULLANG

2024

Jurnal nasional

## **Pelatihan Penggunaan Aplikasi Penjualan Hewan Ternak Yg Ada Di Kampung Kunyit Desa Tumpatan Nibung Untuk Peningkatan Pendapatan Ekonomi**

FAUZAN NURAHMADI , POLTAK SIHOMBING

2024

Jurnal internasional bereputasi

## **Development of the fuzzy grid partition methods in generating fuzzy rules for the classification of data set**

ERNA BUDHIARTI NABABAN , OPIM SALIM SITOMPUL , POLTAK SIHOMBING , MURNI MARBUN

2024

Prosiding seminar internasional

## **Automatic Control System For Rabbit Cage Ammonia Levels Based AIoT**

HARRY ISWANTO SIMANJUNTAK , HAYATUNNUFUS , POLTAK SIHOMBING

2023

Prosiding seminar internasional

## **Smart Home Design Based on IoT and Context Aware Model ICAM**

POLTAK SIHOMBING , ARJON TURNIP

2023

Jurnal internasional bereputasi

## **Design of smart farming communication and web interface using MQTT and Node.js**

POLTAK SIHOMBING , ARJON TURNIP , ENDRA JOELIANTO , TUALAR SIMARMATA

2023

Jurnal internasional bereputasi

## **Taxonomy early detection of brain cancer approach ridge polynomial neural network**

POLTAK SIHOMBING

2023

Jurnal internasional bereputasi

## **MEASURING THE ACCURACY OF SEARCH INTERVAL PARAMETERS ON RIDGE POLYNOMIAL NEURAL NETWORK IN EARLY DETECTION OF BRAIN CANCER**

POLTAK SIHOMBING

2023

Jurnal internasional bereputasi

## **Comparison Analysis of Weighting Using Fuzzy Logic and Centroid Order Rank (ROC) on Simple Additive Weighting (SAW) Method**

POLTAK SIHOMBING

2023

Jurnal internasional bereputasi

## **Analysis of the quantum perceptron algorithm for classification of bank marketing data**

POLTAK SIHOMBING

2023

Jurnal nasional terakreditasi

## **Pemrosesan Query dan Pemeringkatan Hasil dalam Information Retrieval: Sebuah Kajian Literatur**

MAHDIANTA PANDIA , POLTAK SIHOMBING , ROBERTO KABAN

2023

Jurnal internasional bereputasi

## **Analysis of Several Quantum Encoding Methods Implemented on A Quantum Circuit Architecture to Improve Classification Accuracy**

MUHAMMAD ZARLIS , RAHMAD FAUZI , HERMAN MAWENGGANG , POLTAK SIHOMBING

2022

Jurnal nasional terakreditasi

## **COMPARISON OF FEATURE SELECTION TO PERFORMANCE IMPROVEMENT OF K-NEAREST NEIGHBOR ALGORITHM IN DATA CLASSIFICATION**

TULUS , POLTAK SIHOMBING

2022

Jurnal internasional bereputasi

## **Hierarchical Of Grid Partition (HGP) For Measuring The Similarity Of Data In Optimizing Data Accuracy**

VERDI YASIN , MUHAMMAD ZARLIS , OPIM SALIM SITOMPUL , POLTAK SIHOMBING

2022

Jurnal internasional bereputasi

## **Optimisasi Quantum Circuit pada Arsitektur Quantum Perceptron untuk Klasifikasi Data**

POLTAK SIHOMBING

2022

Jurnal internasional bereputasi

## **Weighting Comparative Analysis Using Fuzzy Logic and Rank Order Centroid (ROC) in the Simple Additive Weighting (SAW) Method**

POLTAK SIHOMBING

2021

Prosiding seminar internasional

## **Social Network Analysis Text Mining on Networks Publication Citation**

OPIM SALIM SITOMPUL , POLTAK SIHOMBING , ERNA BUDHIARTI NABABAN

2021

Prosiding seminar internasional

## **Taxonomy of rough set approaches for rule generation**

ERNA BUDHIARTI NABABAN , POLTAK SIHOMBING , OPIM SALIM SITOMPUL

2021

Jurnal internasional bereputasi

## **Measurement Model In Optimizing The Certainty Of Accurate Data Similarity With The Hierarchy Of Partition Grid Method (HGP)**

VERDI YASIN , MUHAMMAD ZARLIS , POLTAK SIHOMBING , OPIM SALIM SITOMPUL

2021

Jurnal internasional bereputasi

## **Comparison of Distance Models on K-Nearest Neighbor Algorithm in Stroke Disease Detection**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

# **Analyzed New Design Data Driven Modelling of Piezoelectric Power Generating System**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **MODELING OF THE OPTIMIZATION FOR DISTRIBUTED SEQUENTIAL SCHEDULING IN SUSTAINABLE MANUFACTURING**

POLTAK SIHOMBING

2021

Jurnal nasional terakreditasi

## **Peningkatan Nilai Keanggotaan Model Segitiga Samakaki Pada Metode Mamdani Dengan Menggunakan Defuzzification Mean Of Maximum (MOM)**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **PENERAPAN RIDGE POLYNOMIAL NEURAL NETWORK UNTUK MENCEGAH PENYAKIT KANKER OTAK**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **New quantum circuit architecture for classifying big data**

POLTAK SIHOMBING

2021

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## **Optimization of the CNN model for smart agriculture**

POLTAK SIHOMBING

2021

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## **A cryptocompression system with Multi-Factor RSA algorithm and Levenstein code algorithm**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **Implementation of Image Security using Elliptic Curve Cryptography RSA Algorithm and Least Significant Bit Algorithm**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **Text File Compression Using Hybrid Run Length Encoding (Rle) Algorithm with even Rodeh Code (Erc) and Variable Length Binary Encoding (Vlbe) to Save Storage Space**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **New Architecture Quantum Perceptron using Quantum Circuit**

POLTAK SIHOMBING

2021

Jurnal internasional bereputasi

## **Development Environment of Machine Learning for Image Classification**

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

## **Capacitated multi depot multi vehicle routing problem using genetic algorithm (case study: watering the medan city park)**

POLTAK SIHOMBING , DIAN RACHMAWATI

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2020

Jurnal internasional bereputasi

## **Capacitated multi depot multi vehicle routing problem using genetic algorithm (case study: watering the medan city park)**

POLTAK SIHOMBING

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2020

Jurnal internasional bereputasi

## **Raspberry-Pi as Portable Web Server E-Learning Moodle for Student Learning and Assignment**

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2020

Jurnal internasional bereputasi

## **Analysis of Attribute Reduction Effectiveness on the Naive Bayes Classifier Method**

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2020

Jurnal internasional bereputasi

## **Genetic Algorithm in Image Inserting with Modified Least Significant Bit Method to Find the Best MSE Value**

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2020

Jurnal internasional bereputasi

## **Analysis of Accuracy Improvement in K-Nearest Neighbor using Principal Component Analysis (PCA)**

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2020

Jurnal internasional bereputasi

## **Ant Colony Optimization (ACO) Algorithm for Determining the Nearest Route Search in Distribution of Light Food Production**

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2020

Jurnal internasional bereputasi

## **The Development of Heart Rate Detection Using Arduino Microcontroller and Android**

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2020

Jurnal internasional bereputasi

## **Implementation of Best First Search Algorithm in Determining Best Route Based on Traffic Jam Level in Medan City**

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2020

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## **Implementation of the Greedy Algorithm to determine the nearest route Search in distributing food production**

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## **Hybrid of Support Vector Machine Algorithm and K-Nearest Neighbor Algorithm to Optimize the Diagnosis of Eye Disease**

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2020

Jurnal internasional bereputasi

## **Analysis of Face Recognition with Fuzzy C-Means Clustering Image Segmentation and Learning Vector Quantization**

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2020

Jurnal internasional bereputasi

## **Robotic Arm Controlling Based on Fingers and Hand Gesture**

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2020

Jurnal internasional bereputasi

## **Expert System for Diagnosing Dental and Mouth Diseases with a Website-Based Certainty Factor (CF) Method**

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2020

Jurnal internasional bereputasi

## **Comparative Analysis of Fuzzy Inference Tsukamoto Mamdani and Sugeno in the Horticulture Export Selling Price**

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2020

Jurnal internasional bereputasi

## **Node-based versus Server-based Data Validations in Internet of Things**

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2020

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## **Hierarchy of Grid Partition (HGP) Integrating data in Software Engineering and databases**

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2020

Jurnal internasional

## **The Development of Document Similarity Detector by Jaccard Formulation**

POLTAK SIHOMBING , EDWARD RAJAGUKGUK , DARWIS ROBINSON MANALU , RIMBUN SIRINGORINGO

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2020

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## **Special issue on international conference on informatics, robotics, network, control and systems (IRONCONS)**

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2020

Jurnal internasional bereputasi

## **Optimization of K Value at the K-NN algorithm in clustering using the expectation maximization algorithm**

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2020

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## **Performance of distance-based k-nearest neighbor classification method using local mean vector and harmonic distance**

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2020

Jurnal internasional bereputasi

## **Analysis SURF feature extraction and SVM classification for the facial image recognition from various angles**

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2020

Jurnal internasional bereputasi

## **Analysis of algorithm support vector machine learning and k-nearest neighbor in data accuracy**

POLTAK SIHOMBING

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## **Increased accuracy in the classification method of backpropagation neural**

## **network using principal component analysis**

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2019

Jurnal internasional bereputasi

### **Embedding the Operating System : A Case Study LMDE 3 on a USB Flash Drive**

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2019

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### **Embedding the Operating System : a Case Study LMDE 3 on a USB Flash Drive**

PAHALA SIRAIT , POLTAK SIHOMBING , IRWAN JANI TARIGAN

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2019

Jurnal internasional bereputasi

### **The Citrus Fruit Sorting Device Automatically Based On Color Method By Using Tcs320 Color Sensor And Arduino Uno Microcontroller**

NOGAR SILITONGA , POLTAK SIHOMBING

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2019

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### **Tools for Detecting and Control of Hydroponic Nutrition Flows with Esp8266 Circuit Module**

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2019

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### **Predictions of World Population Life Expectancy Using Cyclical Order Weight / Bias**

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2019

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### **Time Resolved Spectroscopy Using Boxcar Integrator**

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2019

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### **Tools for Detecting and Control of Soil pH by Probe Sensor based on Android**

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Jurnal internasional bereputasi

### **Collaboration of RSA Algorithm Using EM2B Key with Word Auto Key Encryption Cryptography Method in Encryption of SQL Plaintext Database**

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2019

Jurnal internasional bereputasi

### **Skin Diseases Classification Using Local Binary Pattern and Convolutional Neural Network**

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2019

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### **Rancangan Miniatur Otomatisasi Bel Listrik Pada Gerbang Pintu Menggunakan Mikrokontroler Atmega8535**

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2019

Jurnal internasional bereputasi

### **Embedding the Operating System: A Case Study LMDE 3 on a USB Flash Drive**

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## **Performance Analysis Of Entropy Method In Determining Influence Of Self Organizing Map In Classification Process**

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2019

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## **Predictions of World Population Life Expectancy Using Cyclical Order Weight/Bias**

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2019

Jurnal internasional bereputasi

## **The Heart Attack Detection by ESP8266 Data Communication at a Real Time to Avoid Sudden Death**

POLTAK SIHOMBING

2019

Jurnal internasional bereputasi

## **The Student Attendance Controlling by Using RFID (Radio Frequency Identification) to Increase the Time Optimization and Accurate of Data**

POLTAK SIHOMBING

2019

Jurnal internasional bereputasi

## **The Student Attendance Controlling Based on Face Recognition by using Learning Vectorization Quantization (LVQ) Algorithm**

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2019

Jurnal internasional bereputasi

## **Enhancement Clustering Evaluation Result of Davies-Bouldin Index with Determining Initial Centroid of K-Means Algorithm**

POLTAK SIHOMBING

2019

Jurnal internasional bereputasi

## **Internet of Things based Nutrition Controlling System Development**

POLTAK SIHOMBING

2018

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## **Optimizing the 802.11 hotspot performances by using load and resource balancing method**

POLTAK SIHOMBING

2018

Jurnal internasional bereputasi

## **Performance of BAM algorithm and Viterbi algorithm for lie detection system using voice**

POLTAK SIHOMBING

2018

Jurnal internasional bereputasi

## **Load balancing factor using greedy algorithm in the routing protocol for improving internet access**

POLTAK SIHOMBING

2018

Jurnal nasional terakreditasi

## **Analisis Contrast Stretching Menggunakan Algoritma Euclidean untuk Meningkatkan Kontras pada Citra Berwarna**

POLTAK SIHOMBING

2018

Jurnal nasional

## **Analisis Subspace Clustering Menggunakan DBSCAN Dan SUBCLU Untuk**

## **Proyeksi Pekerjaan Alumni Perguruan Tinggi**

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2018

Jurnal internasional bereputasi

### **A teaching media of using the busy bit and SDCC in displaying character string on LCD in MCU 8051 IDE**

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2018

Jurnal internasional bereputasi

### **Comparison AHP and SAW to promotion of head major department SMK Muhammadiyah 04 Medan**

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2018

Jurnal internasional bereputasi

### **Classification of ECG signal with Support Vector Machine Method for Arrhythmia Detection**

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2018

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### **Development of building security integration system using sensors, microcontroller and GPS (Global Positioning System) based android smartphone**

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2018

Jurnal internasional bereputasi

### **Microcontroller based automatic temperature control for oyster mushroom plants**

POLTAK SIHOMBING

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2018

Jurnal internasional bereputasi

### **Automated hydroponics nutrition plants systems using arduino uno microcontroller based on android**

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2018

Jurnal internasional bereputasi

### **Characterization of outdoor to indoor propagation in urban area by using a combination of COST231 Walfisch-Ikegami and COST231 multiwall models in 1800 Mhz and 2100 Mhz**

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2018

Jurnal internasional bereputasi

### **Analysis of combination of Kohonen algorithm and resilient Backpropagation in weighting process**

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2017

Jurnal internasional bereputasi

### **Design of extraction method of SSVEP brain activity with IIR Chebyshev**

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2017

Jurnal internasional bereputasi

### **Artifacts reduction of EEG-SSVEP signals for emotion detection with robust principal component analysis**

POLTAK SIHOMBING

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2017

Jurnal internasional bereputasi

# **Backpropagation neural networks training for EEG-SSVEP classification of emotion recognition**

POLTAK SIHOMBING

2016

Jurnal internasional bereputasi

## **The Similarities Test of Thesis by Percentage of Similarity Formulation**

POLTAK SIHOMBING

2016

Jurnal internasional

## **The Development of Document Similarity Detector by Jaccard Formulation**

EDWARD RAJAGUKGUK , POLTAK SIHOMBING , DARWIS ROBINSON MANALU , RIMBUN SIRINGORINGO

2014

Jurnal internasional bereputasi

## **DESIGNING A TTL VOLTAGE LEVEL LOGIC PROBE BY USING COMMON CATHODE SEVEN SEGMENT DISPLAY AND AN INVERTING LOGIC GATE ON PROTEUS ISIS 7 PROFESSIONAL [8]**

POLTAK SIHOMBING

2012

Jurnal nasional

## **Optimalisasi Pemanfaatan Teknologi Informasi dan Komunikasi (ICT) sebagai Peluang di Era Globalisasi Ekonomi**

POLTAK SIHOMBING

2006

Jurnal internasional bereputasi

## **Comparison of document similarity in information retrieval system by different formulation**

POLTAK SIHOMBING

## **Researches**

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2024

Ipteks

## **Assessing the influence of USB-C and USB-A Local Area Network (LAN) Cable Connector Adapters on Internet Latency Performance**

Dahlan RP. Sitompul , POLTAK SIHOMBING

2021

Penelitian Dana Lokal Perguruan Tinggi

## **SMART SYSTEM UNTUK MENCEGAH KEBAKARAN HUTAN BERBASIS IoT (Internet of Things)**

POLTAK SIHOMBING

2021

Penelitian Kerjasama Antar Perguruan Tinggi

## **ARTIFICIAL INTELLIGENCE PRECISION FARMING UNTUK MENINGKATKAN PRODUKTIFITAS DAN KUALITAS TANAMAN CABAI**

POLTAK SIHOMBING

2021

Penelitian Kerjasama Antar Perguruan Tinggi

## **DETEKSI DINI PENYAKIT KANKER OTAK MENGGUNAKAN RIDGE POLYNOMIAL NEURAL NETWORK DI RSUP HAJI ADAM MALIK MEDAN BERBASIS REVOLUSI INDUSTRI 4.0**

POLTAK SIHOMBING

2020

Penelitian Dana Lokal Perguruan Tinggi

## **MENGERAKKAN ROBOT UNTUK MENGONTROL OBJEK MENGGUNAKAN**

# GESTUR TANGAN DENGAN LOGIKA FUZZY

POLTAK SIHOMBING

2019

Penelitian Dana Lokal Perguruan Tinggi

## **Optimasi Traveling Salesman Problem (TSP) Menggunakan Algoritma Ant Colony Optimization dan Tabu Search**

POLTAK SIHOMBING

2019

Pendidikan Magister Doktor Sarjana Unggul

## **Klasifikasi Penyakit Kulit pada Citra Digital menggunakan Local Binary Pattern (LBP) dan Convolutional Neural Network (CNN)**

POLTAK SIHOMBING

2019

Pendidikan Magister Doktor Sarjana Unggul

## **ANALISIS PENGANGKATAN BENDA PADA ROBOT KONTROL ANDROID DENGAN METODE FUZZY LOGIC**

POLTAK SIHOMBING

2019

Penelitian Dana Lokal Perguruan Tinggi

## **PENGEMBANGAN SISTEM KONTROL OTOMATIS UNTUK MENGONTROL NUTRISI BERBASIS IoT (Internet of Things)**

POLTAK SIHOMBING

2019

Pendidikan Magister Doktor Sarjana Unggul

## **Optimasi Traveling Salesman Problem (TSP) Menggunakan Algoritma Ant Colony Optimization dan Tabu Search**

POLTAK SIHOMBING

2019

Penelitian Dana Lokal Perguruan Tinggi

## **PENGEMBANGAN SISTEM KONTROL OTOMATIS UNTUK MENGONTROL Ph TANAH MENGGUNAKAN MIKROKONTROLLER**

POLTAK SIHOMBING

2018

Penelitian Dana Lokal Perguruan Tinggi

## **Pengembangan Metode Integrasi Radio Frekuensi Identification (RFID) Dan Mikrokontroler ARDUINO UNO Untuk Membangun Sistem Keamanan Database Mahasiswa dan Ruang**

POLTAK SIHOMBING

2018

Penelitian Disertasi Doktor

## **Pengembangan Metode Local Outlier Factor (LOF) Berbasis Pruned Partisi Dengan Memperhatikan Jarak Ketercapaian Deteksi pada Data Stream**

MUHAMMAD ZARLIS , OPIM SALIM SITOMPUL , POLTAK SIHOMBING , VERDI YASIN

2017

Penelitian Unggulan Perguruan Tinggi

## **Sistem Nutrisi Hidroponik Secara Otomatis Menggunakan Mikrokontroler Arduino Uno Berbasis Smartphone Android**

POLTAK SIHOMBING

2017

Penelitian Dana Lokal Perguruan Tinggi

## **SISTEM KEAMANAN GEDUNG DENGAN METODE RASPBERRY PI PADA MIKROKOMPUTER DENGAN MENGGUNAKAN KAMERA SENSOR PIR DAN SENSOR GETAR**

POLTAK SIHOMBING

2016  
Penelitian Hibah Bersaing

## **MENGUJI KEMIRIPAN SKRIPSI DENGAN FORMULASI POSI (PERCENTAGE OF SIMILARITY)-TAHUN II**

POLTAK SIHOMBING

2016  
Penelitian Unggulan Perguruan Tinggi

## **Integrasi Radio Frequency Identification (RFID) pada board Mikrokontroller Arduino Uno untuk sistem absensi mahasiswa di Fakultas Ilmu Komputer dan Teknologi Informasi (Fasilkom-TI) USU**

POLTAK SIHOMBING

2015  
Penelitian Hibah Bersaing

## **MENGUJI KEMIRIPAN SKRIPSI DENGAN FORMULASI POSI (PERCENTAGE OF SIMILARITY)-TAHUN I**

ELVIAWATY MUISA ZAMZAMI , POLTAK SIHOMBING

2014  
Penelitian Dana Lokal Perguruan Tinggi

## **Perancangan Sistem Dengan Pemanfaatan Algoritma Genetika Untuk Optimasi Perolehan Kemiripan Dokumen. (PNBP USU)**

POLTAK SIHOMBING

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## **Community Services**

2021  
Ipteks

## **PENGABDIAN MASYARAKAT DI SMP NEGERI PANCURBATU-SUMBER DANA NON PNBP USU T.A. 2021**

POLTAK SIHOMBING

2015  
Ipteks

## **PENGEMBANGAN BAHAN AJAR GURU SEKOLAH DASAR ISLAM ASH-SHOLIHAH BERBASIS MULTIMEDIA DENGAN MENGGUNAKAN SOFTWARE ULEAD VIDEO STUDIO 11**

POLTAK SIHOMBING

2014  
Ipteks

## **PEMBINAAN DAN PENGKARYAAN ROBOTIKA SEDERHANA DI SMK MULTI KARYA MEDAN**

POLTAK SIHOMBING

2012  
Ipteks Bagi Masyarakat

## **PELATIHAN TENTANG "PEMANFAATAN ICT DALAM PEMBELAJARAN" DI SMA NEGERI PARONGIL KEC. SILIMA PUNGGU-PUNGGU KAB. DAIRI**

POLTAK SIHOMBING

2010  
Ipteks Bagi Masyarakat

## **PKM Pada SMA Negeri 1 Doloksanggul (Pelatihan Operasional Sistem Informasi Sekolah dan Kegunaan Internet dan Sistem Informasi sebagai media pembelajaran)**

DARWIS ROBINSON MANALU , POLTAK SIHOMBING

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## **Intellectual Property Rights**

2023  
Hak cipta nasional

## **Aplikasi Text Mining Visualisasi Jaringan Sitasi Publikasi**

OPIM SALIM SITOMPUL , ERNA BUDHIARTI NABABAN , POLTAK SIHOMBING

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2020  
Hak cipta nasional

## **Pemrograman Visual Basic 6.0**

POLTAK SIHOMBING , DARWIS ROBINSON MANALU

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2018  
Hak cipta internasional

## **A-Z MIKROKONTROLLER 8051 (perangkat keras, antar muka, pemrograman dan aplikasi)**

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