

# Prof. Drs. Poltak Sihombing, M.Kom., Ph.D

Dosen Program Studi S3 Ilmu Komputer  
Fakultas Ilmu Komputer dan Teknologi Informasi  
Universitas Sumatera Utara

✉ [poltak@usu.ac.id](mailto:poltak@usu.ac.id)

🌐 [fasilkom-ti.usu.ac.id/id/dosen/poltak-sihombing](http://fasilkom-ti.usu.ac.id/id/dosen/poltak-sihombing)

*Poltak Sihombing, M.Kom, Ph.D., lahir di Sidikalang (Dairi), pada tanggal 17 Maret 1962. Beliau memperoleh gelar Sarjana dari jurusan Fisika (Konsentrasi Komputer), Universitas Sumatera Utara pada tahun 1988 dengan tesis berjudul "Penggunaan Micro-System Troubleshooter Pada Instrumen Yang Memakai Mikroprosesor", kemudian menyelesaikan studi Magister di Ilmu Komputer (Universitas Indonesia) pada tahun 1999 dengan tesis berjudul "Sistem Temu-Kembali Informasi Menggunakan Jaringan Syaraf Tiruan dengan Beberapa Ukuran Kemiripan". Beliau kemudian meraih gelar doktor di Ilmu Komputer Universitas Sains Malaysia pada tahun 2010 dengan disertasi berjudul, "Pendekatan Kompetisi Kata Kunci dalam Temu Kembali Dokumen Berperingkat".*

*Poltak Sihombing, M.Kom, Ph.D. merupakan dosen di Fasilkom-TI hingga saat ini dan pernah menjabat sebagai ketua Program Studi S1 Ilmu Komputer pada tahun 2011-2016 dan 2016-2021. Beliau merupakan salah satu dosen yang aktif berkontribusi dan berpartisipasi dalam beberapa organisasi sebagai Sekretaris Jenderal, Asosiasi Pendidikan Tinggi Informatika Komputer Wilayah1 Sumut-Aceh (APTIKOMWIL1) SUMUT-Aceh (2014-2019), Anggota Himpunan Fisikawan Indonesia (HFI) Medan (2017-2022), Anggota Ikatan Profesi Komputer Informatika (IPKIN) (2018-2023), Ketua Asosiasi Pendidikan Tinggi Informatika Komputer Wilayah1 Sumut-Aceh (APTIKOMWIL1) Provinsi Sumatera Utara Medan (2019-2024), Anggota Ikatan Ahli Informatika Indonesia (IAII) Provinsi Sumatera Utara Medan (2019-2024). Beliau juga ditunjuk sebagai salah satu reviewer pada International Conference on Cyber Physical, Computer, and Automation Systems. CPCAS2019*

*Saat ini, beliau menekuni beberapa bidang penelitian, antara lain mikrokontroler, sistem cerdas, sistem temu kembali informasi, dan internet of things. Beberapa penelitiannya yang sedang berjalan (tahun 2021) antara lain: Alat Pendeteksi dan Pengendali Gangguan Keamanan Gedung Dengan Sim900, Alat Pendeteksi dan Pengendali Aliran Nutrisi Tanaman Hidroponik Dengan Modul Rangkaian Esp8266, Alat Penyortir Buah Jeruk Menggunakan Sensor Tcs320 dan Mikrokontroler Arduino Uno, Rangkaian Esp8266 Alat Komunikasi Data Secara Real Time Untuk Mendeteksi dan Mengendalikan Detak Jantung. Selain itu, ia menerbitkan dua buku berjudul Visual Basic 6.0 (2017), A-Z MIKROKONTROLLER 8051, Perangkat Keras, Antarmuka, Pemrograman, dan Aplikasi (2018).*

*JADILAH BERMIMPI SETINGGI MUNGKIN, DAN SETELAH BEMIMPI HARUS ADA KEPERCAYAAN UNTUK MEWUJUDKANNYA. PERCAYA BAHWA KAMU DAPAT MEWUJUDKANNYA (YOU CAN DO IT). DREAM, BELIEVE, MAKE IT HAPPEN.*

---

## 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**

FAHMI , POLTAK SIHOMBING , HERDIANTO , TULUS

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 SQUENTIAL SCHEDULING IN SUSTAINABLE MANUFACTURING**

POLTAK SIHOMBING

---

2021

Jurnal nasional terakreditasi

## **Peningkatan Nilai Keanggotaan Model Segitiga Samakaki Pada Metode Mamdani Dengan Menggunakan Defuzzyfication 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

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2021

Jurnal internasional bereputasi

## **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

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2020

Jurnal internasional bereputasi

## **Analysis of Face Recognition with Fuzzy C-Means Clustering Image**

# Segmentation and Learning Vector Quantization

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

## Robotic Arm Controlling Based on Fingers and Hand Gesture

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional

## The Development of Document Similarity Detector by Jaccard Formulation

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

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2020  
Jurnal internasional bereputasi

## **Increased accuracy in the classification method of backpropagation neural network using principal component analysis**

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional

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

PAHALA SIRAIT , POLTAK SIHOMBING , IRWAN JANI TARIGAN

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

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019  
Jurnal nasional terakreditasi

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

POLTAK SIHOMBING

2019  
Jurnal internasional bereputasi

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

POLTAK SIHOMBING

2019

Jurnal nasional terakreditasi

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

POLTAK SIHOMBING

---

2019

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

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**

POLTAK SIHOMBING

---

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

Jurnal internasional bereputasi

## **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

## **Analisis Subspace Clustering Menggunakan DBSCAN Dan SUBCLU Untuk Proyeksi Pekerjaan Alumni Perguruan Tinggi**

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

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**

POLTAK SIHOMBING

---

2018

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2017

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

2017

Jurnal internasional bereputasi

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

POLTAK SIHOMBING

---

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**

---

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

# **MENGGERAKKAN 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 Ruangan**

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 Mikrokontroler 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

## **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 PUNGGGA-PUNGGGA 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

## **Intellectual Property Rights**

---

2023

Hak cipta nasional

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

OPIM SALIM SITOMPUL , ERNA BUDHIARTI NABABAN , POLTAK SIHOMBING

---

2020

Hak cipta nasional

## **Pemrograman Visual Basic 6.0**

POLTAK SIHOMBING , DARWIS ROBINSON MANALU

---

2018

Hak cipta internasional

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

POLTAK SIHOMBING

---