

# **SISTEM PAKAR DIAGNOSA GEJALA AWAL COMPUTER VISION SYNDROME MENGGUNAKAN METODE CERTAINTY FACTOR**

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## **ABSTRAK**

Computer Vision Syndrome (CVS) merupakan gangguan kesehatan mata yang disebabkan oleh penggunaan perangkat digital secara berlebihan dan ditandai dengan gejala seperti mata lelah, kering, sakit kepala, serta penglihatan kabur. Rendahnya kesadaran masyarakat terhadap kesehatan mata serta keterbatasan akses layanan kesehatan mata, khususnya di daerah Bengkalis, menyebabkan perlunya solusi deteksi dini yang mudah diakses. Penelitian ini bertujuan untuk merancang dan mengembangkan sistem pakar berbasis web yang mampu mendiagnosis gejala awal Computer Vision Syndrome (CVS) berdasarkan gejala yang dialami pengguna. Metode Certainty Factor (CF) digunakan untuk mengolah ketidakpastian data gejala dan menghasilkan tingkat keyakinan terhadap hasil diagnosis. Data gejala dan nilai CF diperoleh melalui wawancara pakar dan studi literatur. Pengujian sistem dilakukan menggunakan metode Blackbox Testing untuk menguji fungsionalitas sistem serta pengujian akurasi dengan membandingkan hasil perhitungan sistem dan perhitungan manual. Hasil pengujian akurasi menunjukkan bahwa sistem memiliki tingkat akurasi sebesar 85%, sehingga sistem pakar yang dikembangkan mampu memberikan diagnosis awal CVS secara akurat dan sesuai dengan perhitungan pakar, serta dapat digunakan sebagai alat bantu deteksi dini gangguan Computer Vision Syndrome.

**Kata Kunci:** Computer Vision Syndrome, Sistem Pakar, Certainty Factor, Diagnosis Dini, Berbasis Web.

# **EXPERT SYSTEM FOR DIAGNOSING EARLY SYMPTOMS OF COMPUTER VISION SYNDROME USING THE CERTAINTY FACTOR METHOD**

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## **ABSTRACT**

Computer Vision Syndrome (CVS) is an eye health disorder caused by excessive use of digital devices and is characterized by symptoms such as eye strain, dry eyes, headaches, and blurred vision. The low level of public awareness regarding eye health and the limited access to eye care services, particularly in the Bengkalis region, highlight the need for an easily accessible early detection solution. This study aims to design and develop a web-based expert system capable of diagnosing the early symptoms of Computer Vision Syndrome (CVS) based on the symptoms experienced by users. The Certainty Factor (CF) method is employed to handle uncertainty in symptom data and to produce a confidence level for the diagnostic results. Symptom data and CF values are obtained through expert interviews and literature review. System testing is conducted using Blackbox Testing to evaluate system functionality, as well as accuracy testing by comparing the system's calculation results with manual expert calculations. The accuracy testing results indicate that the system achieves an accuracy rate of 85%, demonstrating that the developed expert system is able to provide accurate early diagnosis of CVS and can be utilized as a decision support tool for the early detection of Computer Vision Syndrome.

**Keywords:** Computer Vision Syndrome, Expert System, Certainty Factor, Early Diagnosis, Web-Based.