

ABSTRAK

RANCANG BANGUN ALAT PELIPAT BAJU OTOMATIS BERBASIS INTERNET OF THINGS (IoT)

(2026: xii ± 80 HALAMAN + 35 GAMBAR + 10 TABEL + LAMPIRAN)

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Melipat pakaian merupakan salah satu aktivitas rumah tangga yang dilakukan secara rutin dan membutuhkan waktu serta ketelitian agar hasil lipatan rapi. Untuk meningkatkan efisiensi proses tersebut, pada penelitian ini dirancang dan dibangun alat pelipat baju otomatis berbasis *Internet of Things* (IoT) yang mampu melakukan pelipatan pakaian secara otomatis serta dapat dikendalikan dan dipantau melalui perangkat yang terhubung ke jaringan internet. Sistem menggunakan mikrokontroler sebagai pengendali utama, motor servo sebagai penggerak mekanisme pelipatan, serta platform IoT untuk komunikasi data antara alat dan pengguna. Metode penelitian meliputi tahap perancangan perangkat keras dan perangkat lunak, perakitan sistem, pengujian fungsi, serta evaluasi kinerja alat. Hasil pengujian menunjukkan bahwa alat dapat menjalankan proses pelipatan sesuai urutan yang telah diprogram dengan baik, serta memungkinkan pengguna mengoperasikan dan memantau status pelipatan secara real-time melalui antarmuka berbasis IoT. Penerapan teknologi IoT pada alat ini memberikan kemudahan dalam pengoperasian, meningkatkan efisiensi waktu, serta mendukung otomatisasi pekerjaan rumah tangga. Dengan demikian, alat pelipat baju otomatis berbasis *Internet of Things* (IoT) diharapkan dapat menjadi solusi inovatif yang membantu masyarakat dalam melakukan proses pelipatan pakaian secara lebih praktis, efektif, dan efisien.

Kata kunci: Pelipat baju otomatis, *Internet of Things* (IoT), mikrokontroler, motor servo, otomasi.

ABSTRACT

DESIGN AND DEVELOPMENT OF AN AUTOMATIC CLOTHES FOLDING MACHINE BASED ON THE INTERNET OF THINGS (IoT)
(2026: xii ± 80 Pages + 35 Figures + 10 Tables + Appendices)

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Folding clothes is one of the routine household activities that requires considerable time and accuracy to achieve neat and organized results. To improve the efficiency of this process, this study designed and developed an automatic clothes folding machine based on the Internet of Things (IoT), which is capable of folding clothes automatically and can be controlled and monitored through a device connected to the internet. The system uses a microcontroller as the main control unit, servo motors as the actuators for the folding mechanism, and an IoT platform to facilitate data communication between the machine and the user. The research method consists of hardware and software design, system assembly, functional testing, and performance evaluation. The test results show that the machine is capable of performing the folding process according to the programmed sequence properly and allows users to operate and monitor the folding status in real time through an IoT-based interface. The implementation of IoT technology provides convenience in operating the machine, improves time efficiency, and supports the automation of household activities. Therefore, the automatic clothes folding machine based on the Internet of Things (IoT) is expected to serve as an innovative solution to help users fold clothes in a more practical, effective, and efficient manner.

Keywords: *Automatic clothes folding machine, Internet of Things (IoT), microcontroller, servo motor, automation.*