

**INTEGRASI INOVASI DIGITAL BERBASIS *HARDWARE*
DAN *SOFTWARE* DALAM *SMART AQUACULTURE*:
ANALISIS GAP DAN STRATEGI PENGUATAN BUDIDAYA
UDANG VANAME (*Penaeus vannamei*, Boone, 1931)
DI JALA**

Tesis

Untuk memenuhi sebagian persyaratan mencapai derajat master
Program Studi Magister Ilmu Perikanan



disusun oleh
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24/547699/PPN/05344

PROGRAM PASCASARJANA
FAKULTAS PERTANIAN
UNIVERSITAS GADJAH MADA
YOGYAKARTA
2026

Thesis

**INTEGRATING HARDWARE AND SOFTWARE BASED
DIGITAL INNOVATIONS IN SMART AQUACULTURE:
GAP ANALYSIS AND STRATEGIC FRAMEWORK FOR
WHITELEG SHRIMP (*Penaeus vannamei*, Boone, 1931)
FARMING AT JALA**

Submitted to
Study Program of Fisheries Science
for the Degree of Master



Submitted by
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POSTGRADUATE PROGRAM
FACULTY OF AGRICULTURE
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Thesis

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This thesis was declared acceptable in partial fulfillment of the requirements for
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