

## **CURRICULUM VITAE (CV)**

### **1. PERSONAL DATA**

Name : **Dr Elmi bin Abu Bakar**

Nationality : **Malaysian**

Current Position : **Lecturer**

Qualifications : **D.Eng**

Field of specialization: **Machine Vision , Control System , Robotics and Signal Processing**

Tel (office) /HP : **04-599 6391/0164939839**

Fax : **04-5991025**

email : **meelmi@eng.usm.my**

### **2. RESEARCH PROJECTS**

#### **I. Completed Research Projects for the last three years**

<b>No.</b>	<b>Title of research</b>	<b>Grant's Name</b>	<b>Duration</b>	<b>Start Date</b>	<b>End Date</b>
1	Prototype Shape Measuring System using Stereo Vision unit	Incentive	1 years	Nov 2010	December 2011

#### **II. Ongoing Research Projects for the last three years**

<b>No.</b>	<b>Title of research</b>	<b>Grant's Name</b>	<b>Duration</b>	<b>Start Date</b>	<b>End Date</b>
1	Design and Development of Artificial Squid Mantle using Electroactive Polymer	Fundamental Research Grant Scheme (MOHE) – Co-researcher	2 years	August 2011	August 2013
2	Development Study of the Processing Technology of Out-Of-Autoclave Manufacturing for Aero-Composite Structures	Exploratory Research Grant Scheme (MOHE) Co- researcher	2 years	August 2011	August 2013
3	Innovative Engineering Solution for System and Process	Knowledge Transfer Programme Ministry of Higher Education (MOHE) Co-researcher	2 years	August 2011	August 2013
4	"Flexible and precision magneto-rheological actuated punching workstation for	Prototype Research Grant Scheme (PRGS-KPT	2 years	Sept 2012	August 2015

	aircraft composite panel. “				
5	“Development and Performance Analysis of Magneto Rheological Proportional Directional Control Valve for Hydraulic Actuator”	RUI (Individual)	3 years	July 2012	July 2015
6	“Advance Maintenance Policy Selection Model by Using Technique of Preference by Similarity to the Ideal Solution (TOPSIS). “	Fundamental Research Grant Scheme	2 years	June 2012	May 2014
7	“Modeling of Radial Contraction of Ionic Polymer Composite (IPMC) Actuated Cylindrical Micro Pump”	Fundamental Research Grant Scheme	2 years	June 2012	May 2014
8	Development of Real Time Control of a Mobile Robot Using MATLAB (Self-Balanced Unmanned Vehicle)	USM Jangka Pendek	2 years	June 2012	May 2014

3. **RESEARCH PUBLICATIONS for the last 5 years (include journals, books, chapter in books etc.)**

**INTERNATIONAL JOURNALS**

1. Generate a 3D CAD Models for Pose Estimation", **Elmi Abu Bakar**, Miyake Tetsuo, Imamura Takashi and Zhong Zhang, International Journal of Computer and Electrical Engineering, Volume 2, No.4, August 2010
2. A study of 3D Objects Pose Estimation for CAT system", **Elmi Abu Bakar**, Miyake Tetsuo, Naito Shinya, Imamura Takashi and Zhong Zhang, Applied Mechanics and Material, Volume 36, pp 485-493, 2010.
3. 3D CAD Models and its feature similarity", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang and Imamura Takashi, International Journal of Signal Processing (WASET), Volume 5, Number 4 pp259-263, Fall 2009
4. Design Consideration of Bio-inspired Contractible Water-Jet Propulsor for Mini Autonomous Underwater Robot", Muhammad Farid Shaari, Zahurin Samad, **Elmi Abu Bakar** and Mariatti Jaafar, Advanced Materials Research, pp1583-1588, 2012
5. "Photoelectric Sensor Based Intelligent Track Racing Car", M.G. Shahril Shah, **A.B. Elmi**, A. Nazir, S. Shukri, Procedia Engineering, Vol.41 (2012), pp. 588-592.
6. Y.C. Koo, **Elmi A.B** and Wan Amir Fuad Wajdi, Piston mechanism based rope climbing robot, Procedia Engineering Vol.41 (2012) 547 – 553.
7. Rashiqah Rashli, Zuliani Zulkoffli, **Elmi Abu Bakar** and Mohd Shukri Soaid, A Study of 3D CAD Model and Feature Analysis for Casting Object, International Journal of Engineering and Technology Innovation, Vol.2(2012), pp54-65.
8. Rashiqah Rashli, **Elmi Abu Bakar**, Shahrul Kamaruddin and Abd Rahim Othman, A Review of Ultrasonic Welding of Thermoplastic Composites, Caspian Journal of Applied Sciences Research (CJASR), Accepted- CJASR-12-16-307

## PROCEEDINGS/ CONFERENCES

1. Shape Descriptor for Outline Shape Measurement", **Elmi Abu Bakar**, Miyake Tetsuo and Horihata Satoshi, SICE ANNUAL CONFERENCE 2005 (Proceeding pp.156)
2. 3D CAD Models Shape Representation for Pose Estimation" , **Abu Bakar Elmi**, Tetsuo Miyake , Zhang Zhong and Takashi Imamura, ROBOTICS, VISION, INFORMATION AND SIGNAL PROCESSING (ROVISP2007), pp.390-393 , (2007.11.28-30, Penang, MALAYSIA).
3. 3D CAD models and its feature Similarity", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang and Imamura Takashi, International Conference on Computer, Electrical, and System Science, and Engineering CESSE2009) pp.518-522.(2009.2.27-30, Penang, Malaysia).
4. A study of 3D Objects Pose Estimation for CAT system"(Linear Pose Estimation using Image sequence), **Elmi Abu Bakar**, Miyake Tetsuo, Imamura Takashi, Naito Shinya and Zhong Zhang, International Conference on Precision Instrumentation and Measurement 2010 (CPIM2010) (2010.03.17-20, Gunma ,JAPAN).
5. Design Consideration of Bio-inspired Contractible Water-Jet Propulsor for Mini Autonomous Underwater Robot", Muhammad Farid Shaari, Zahurin Samad, **Elmi Abu Bakar** and Mariatti Jaafar, (Accepted for Proceeding). 2012 2<sup>nd</sup> International Conference on Advanced Material Research, Beijing, China
6. Object pose and position estimation based on Fourier descriptors", **Elmi Abu Bakar**, Miyake Tetsuo, Naito Shinya, Horihata Satoshi, 47<sup>th</sup> Conference of Japan Control System Society, 2004 No.04, pp256.
7. Shape Representation and Matching for Computer Aided Testing System", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang, Imamura Takashi, Society of Precision Engineering, Japan Fall Conference 2006, pp,717-718.
8. Shape Feature Description for Computer Aided Testing in Production Line", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang, Imamura Takashi, Toyohashi University of Technology Global COE, Symposium on Frontiers of Intelligent Sensing 2008, pp.60-61 (2008.03.04).
9. Shape representation algorithm of Casting object of Pipe Connector ", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang, Imamura Takashi, Society of Precision Engineering, Japan, Fall Conference 2008 (2008,09, 17-19 ).
10. Shape representation algorithm of Casting object of Pipe Connector and Its Application", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang, Imamura Takashi, Toyohashi University of Technology Global COE, Symposium on Application and Deepening of Intelligent Sensing Technology ADIST2008, pp.65 (2008.10.17).
11. Development of Shape Measuring Algorithm for CAT System", **Elmi Abu Bakar**, Miyake Tetsuo, Zhong Zhang and Imamura Takashi, Toyohashi University of Technology Global COE, Symposium on Frontiers of Intelligent Sensing 2009, pp 118-119(2009.03. 04).
12. Development of Wheeled Mobile Robot and It's application.", TUT-USM Joint Workshop, 13 Sept 2011,
13. Design Consideration of Bio-inspired Contractible Water-Jet Propulsor for Mini Autonomous Underwater Robot ",TUT-USM Joint Workshop, 13 Sept 2011.
14. Rashaqah Rashli, **Elmi Abu Bakar**, and Abd Rahim Othman, Feature Analysis Of Ultrasonic C-Scan Image For Non Destructive Evaluation, Proceedings of the IIEEJ Image Electronics and Visual Computing Workshop 2012, Kuching, Malaysia, November 21 - 24, 2012.
15. Nurul Aida Harun, Rashaqah Rashli and **Elmi Abu Bakar** , CAD rendering Image for Flexible Printed Circuit(FPC) models for Automated Visual Inspection, IEEE IMS Poster Competition 2012, IIUM Gombak, Dec 2012.
16. Mohammad Zaim Mohammed Pauzi, Rashaqah Rashli and **Elmi Abu Bakar**, Pixel based method for Ultrasonic C-Scan Image for Non Destruction Evaluation, IEEE IMS Poster Competition 2012, IIUM Gombak, Dec 2012.
17. A.R. Othman, D. Chin, S. Kamaruddin and **Elmi Abu Bakar** ,"Processing of Out-of-Autoclave Monolithic Laminate – Effect of PTFE(Polytetrafluoroethylene) Release Film on Surface Voids Reduction", The 5<sup>th</sup> AUN/SEED-Net Regional Conference in Mechanical and Aerospace Technology, Bangkok, 12-13 Feb,2013.
18. **Elmi Abu Bakar**, Rashaqah Rashli, Abd Rahim Othman," Image based methods for void detection in composite panel for Non Destructive Testing", The 5<sup>th</sup> AUN/SEED-Net Regional Conference in Mechanical and Aerospace Technology, Bangkok, 12-13 Feb,2013