

个人简历

谢明

个人信息	<ol style="list-style-type: none">1. 出生日期: 1963.10.312. 国籍: 新加坡3. 祖籍: 中国-江西4. 护照号码: E6356831E5. 婚姻状况: 已婚, 两个子女6. 宗教信仰: 科学
职位职称	<ul style="list-style-type: none">• 1999-至今, 新加坡南洋理工大学, 副教授• 2004-至今, 国际人形机器人学术刊物(SCI/SCIE 收录), 主编• 2008-至今, 新加坡机器人学会, 会长• 2018-至今, 新中科技联盟, 主席• 2017-至今, 新加坡人民行动党, 党员 <ul style="list-style-type: none">• 1989-1990, 法国雷诺汽车公司研发部门, 研发工程师• 1990-1993, 法国国立计算机与自动化研究院 (INRIA), 专家工程师• 1993-1996, 新加坡南洋理工大学, 研究员• 1996-1997, 新加坡南洋理工大学, 讲师• 1998-1998, 新加坡南洋理工大学, 高级讲师• 1998-2003, 新加坡南洋理工大学智能汽车实验室主任• 2000-2004, 新加坡-麻省理工大学联盟会士 (Fellow, Singapore-MIT Alliance)• 2000-2006, 新加坡南洋理工大学定位与无线技术中心副主任• 2013-2016, 南京工业大学智能系统与机器人研究所, 所长• 2014-2016, 南京工业大学电气工程与控制科学学院, 院长, 教授
教育背景	<ul style="list-style-type: none">• 1984 年获华东纺织工学院自动化专业学士学位 (同年考取公派留法研究生)• 1985 年上海外国语学院中国公派留法学生培训班结业• 1986 年获法国瓦朗西大学自动化硕士学位• 1989 年获法国雷恩大学信息学博士学位
教学经历	<ol style="list-style-type: none">1. MA4825 Robotics 机器人学2. MA4829 Machine Intelligence 人工智能3. MA4832 Microprocessor Systems 微控制器4. MA4822 Measurement and Sensing Systems 传感器与测量5. MA3005 Control Theory 控制理论6. FE1001 University Physics 大学物理学7. M6208 Probability (Foundation of CIM) 概率论8. SMA6302 Manufacturing Process Control 制造过程控制
科研项目	<ol style="list-style-type: none">1. 1994-1997, High Performance and Real-time Vision for Robot Guidance, S\$635,500.0, MOE (ARC1/94), PI.2. 1997-2000, Research on a New Modular Chain Guided by Vision, S\$226,920.0, NTU (RG72/76), PI.3. 1997-2000, Simulator for Sensor-guided Autonomous Systems, S\$840,520.0, NSTB (JT-ARC7/97), Co-PI.4. 1997-2000, Intelligent Mobile Systems, S\$350,000.0, MOE (ARC15/97), PI.

	<ol style="list-style-type: none"> 5. 1999-2002, Flexible Snake-like Robot Driven by Singapore Motor, S\$64,000.00, NTU (RG73/98), Co-PI. 6. 2000-2003, Advanced & Intelligent Mechatronics, S\$600,000.0, ST Kinetics Ltd, PI. 7. 2006-2009, Low-Cost Humanoids, S\$570,000.0, MINDEF (DSOCL06171), PI. 8. 2006-2009, Low-cost Android Systems, S\$786,000.0, MINDEF (DSOCL06255), PI. 9. 2009-2012, Development of a humanoid robot, S\$999,000.0, MINDEF (POD0914255), PI. 10. 2013-2014, Perception, Control and Guidance of Autonomous Surface Vehicles, S\$80,000.0, MINDEF-NTU /JPP/13-01-04, PI. 11. 2014-2015, Research on Path Planning Algorithms of Autonomous Surface Vehicles, S\$80,000.0, MINDEF-NTU /JPP/14-01-02, PI. 12. 2016-2017, Design and Develop USV Autonomy, S\$141,450, MINDEF/PA9016102878, PI.
<p style="text-align: center;">科研成果 (论著)</p>	<ol style="list-style-type: none"> 1. Xie M., 2003, Fundamentals of Robotics: Linking Perception to Action, World Scientific Publishing Co. 2. K. S. Jayakumar and Xie M., 2010, Natural Language Understanding by Robots, LAP LAMBERT Academic Publishing Co. 3. Xie M., Dubowsky S., Fontaine J. G., Tohki O. M. and Virk G. (Eds), 2007, The Advances in Climbing and Walking Robots, World Scientific Publishing Co. 4. Xie M, Xiong Y. L., Xiong C. H., Liu H. H. and Hu Z. C. (Eds), 2009, Intelligent Robotics and Applications, Springer-Verlag Publishing Co.
<p style="text-align: center;">科研成果 (期刊论文)</p>	<ol style="list-style-type: none"> 1. M. Xie, 2018, A Concept of Culture Space and Its Possible Application to Achieving Durable Peace, Journal of Technology and Social Sciences. (accepted) 2. M. Xie, 2018, A Holistic View of University and Its Governance, Journal of Technology and Social Sciences. (accepted) 3. M. Xie and S. Velamala, 2018, Maritime Autonomous Vessels: A Review of RobotX Challenge's Works, Journal of Technology and Social Sciences, Vol.2, No.2, pp.7-14. 4. Wee Teck Chew, A. Astolfi, and Xie Ming, 2013, Design and Control of A Bipedal Robot with Sensory feedback, International Journal of Advanced Robotic Systems, pp. 1-12. 5. Dong YC, Hu ZC and Xie M, 2012, A Model-Based 3D Face Pose and Animation Tracker with Auto-registration Using a Binocular EKF Kernel, International Journal of Humanoid Robotics, Vol. 9, No. 2, pp 1250014-1 / 1250014-31. 6. Wee Teck Chew, A. Astolfi, and Xie Ming, 2012, Robust Control of Bipedal Humanoid (TPinokio), Procedia Engineering (Elsevier), Vol. 41, pp. 643-649. 7. Chi Xu, Shiqi Li and Ming Xie, 2012, A Robust O(n) Solution to the Perspective-n-Point Problem, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 34, Issue 7. (link) 8. S. Q. Li, Y. Liu and M. Xie, 2011, Implementation of a single motor driven manipulator with multiple joints, Industrial Robot - An International Journal, Vol. 38, No. 1. (Recipient of Best Paper Award from Emerald Group Publishing Limited, PDF, PNG) 9. M. Xie, 2009, Five Steps of Evolution from Non-life to Life-like Robots, International Journal of Humanoid Robotics, Vol. 6, No. 2, pp.307-327 (PDF) 10. M. Xie, L. Wang, L. B. Xian, J. Li, H. J. Yang, C. S. Song and L. Zhang, 2009, Developing Hardware Capability for Mobile Manipulation by Low Cost Humanoid Robot (LOCH), Industrial Robot – An International Journal, Vol. 36, No. 5. (PDF) 11. Xie M, Zhong Z. W., Zhang L., Xian L. B., Wang L., Yang H. J., Song C. S. and Li J., 2009, A Deterministic Way of Planning and Controlling Biped Walking of Low Cost Humanoid (LOCH) Robot, Industrial Robot – An International Journal, Vol. 36, No. 4,

- pp. 314-325. (Recipient of Best Paper Award from CLAWAR 2008) ([PDF](#))
12. Yin Xiaoming, Xie M., 2007, Finger Identification in hand gesture based human-robot interaction, *Image and Vision Computing*, Vol. 25, No. 8, pp. 1291-1300.
 13. Rinaldo Christian Tanumara, Xie M., Au Chi Kit, 2006, Learning Human-like Color Categorization through Interaction, *International Journal of Computational Intelligence*, Vol. 3, No. 4, pp. 338-345.
 14. Xiong Youjun, Li Shiqi, Xie M., 2006, Predictive display and interaction of telerobots based on augmented reality, *Robotica*, Vol. 24, No. 4, pp. 447-453.
 15. Wu Z., Xie M., Liu Q. C., Zhang Y., 2006, SXC Control Chart, *International Journal of Advanced Manufacturing Technology*, Vol. 30, pp. 444-451.
 16. Wu Z., Xie M., Zhang Sheng, 2005, A Virtual System for Vision Based SPC, *Quality Engineering*, Vol. 17, No. 3, pp. 337-343
 17. Guo Dong, Xie M., 2005, Color Clustering and Learning for Image Segmentation based on Neural Networks, *IEEE Transactions on Neural Networks*, Vol. 16, No. 4, pp. 925-936.
 18. Xie M., K. S. Jayakumar and Chia Hon Fai, 2004, Meaning-centric Framework for Natural Text/Scene Understanding by Robots, *International Journal of Humanoid Robotics*, [Vol. 1, No. 2](#), pp. 375-407 ([PDF](#)).
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 21. Wu Z., Xie M., Wang Zhi Gang, 2001, Optimum Rectifying Inspection Plans, *International Journal of Production Research*, Vol. 39, No. 8, pp. 1575-1588.
 22. Yin, X. Guo, D. and Xie, M., 2001, Hand Image Segmentation Using Color and RCE Neural Network, *Robotics and Autonomous Systems*, Vol. 34, No. 4, pp. 235-250.
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 25. Xie M., 1997, Automatic Feature Matching in Uncalibrated Stereovision Through the Use of Color, *Robotics and Autonomous Systems*, Vol. 21, No. 21, pp. 355-364 ([PDF](#)).
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 27. Xie M., 1996, Matching Free Stereovision for Detecting Obstacles on a Ground Plane, *Machine Vision and Applications*, Vol. 9, No. 1, pp. 9-13 ([PDF](#)).
 28. Xie M., 1995, Feature Matching and Affine Transformation for 2D Cel Animation, *The Visual Computer*, Vol. 11, No. 8, pp. 419-428 ([PDF](#))
 29. Xie M., 1995, Trinocular Vision for AGV Guidance: Path Localisation and Obstacle Detection, *Computers & Electrical Engineering*, Vol. 21, No. 6, pp. 441-452.
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	<p>Letters, Vol. 14, No. 2, pp. 103-110 (PDF)</p> <p>36. Xie M., 1992, Edge Linking by Using Causal Neighborhood Window, Pattern Recognition Letters, Vol. 13, No. 9, pp. 647-656 (PDF).</p> <p>37. Xie M., M. Thonnat, 1992, An Algorithm for Finding Closed Curves, Pattern Recognition Letters, Vol. 13, No. 1, pp. 73-81 (PDF).</p>
<p>科研成果 (会议论文)</p>	<ol style="list-style-type: none"> 1. Sai Sahith Velamala, Devendra Patil and Xie Ming, 2017, Development of ROS-Based GUI for Control of an Autonomous Surface Vehicle, IEEE International Conference on Robotics and Biomimetics, pp.628-633. 2. Xu Jin and Xie Ming, 2015, Iterative Template Matching Strategy for Visual Target Detection by Unmanned Surface Vehicle, Intelligent Robotics and Applications, Volume 9246 of the series Lecture Notes in Computer Science pp 386-391, Springer. 3. Wee Teck Chew, A. Astolfi, and Xie Ming, 2012, Control of Bipedal Robot (TPinokio) with Augmented Model Predictive Control and Inverted Pendulum Method, IEEE International Conference on Electronics, Communication and Control, pp. 2781-2784. 4. Wee Teck Chew, Xie Ming, and A. Astolfi, 2011, Modular-Joint Design for Efficient Walking and Modeling of a Bipedal Robot TPinokio, International Conference on Climbing and Walking Robots, pp. 493-500. 5. Wee Teck Chew, A. Astolfi, and Xie Ming, 2011, Modular-Joint Design of a TPINOKIO Bipedal Robot, 8th International Conference on Informatics in Control, Automation and Robotics, pp. 185-190. 6. Chen Koon Toh, Ming Xie, Hejin Yang, Guoqing Zhang, Quoc Phuong Bui and Bo Tian, (2010), Flexible Foot Design for Biped Walking on Uneven Terrain, Intelligent Robotics and Applications, Lecture Notes in Computer Science, Springer, Volume 6424, pp 442-452. 7. Zhang G. Q., Xie M., Phuong B. Q., Tian B. and Toh C. H., 2010, Design and Optimization of Online Walking Gaits for the LOCH Humanoid Robot, 13th International Conference on Climbing and Walking Robots, pp1202-1209, Nayoya, Japan. 8. Zhang G. Q., Xie M., Yang H. J., Li J. and Wu X. P., 2010, Locomotion Control System Design for the LOCH Humanoid Robot, 18th Mediterranean Conference on Control and Automation, pp974-979, Morocco. 9. Zhang G.Q., Xie M., Yin H., Wang L. and Yang H. J., 2009, Planning and Control of Biped Walking along Curved Paths on Unknown and Uneven Terrain, Intelligent Robotics and Applications, Lecture Notes in Computer Science, Springer, Volume 5928, 2009, pp 1032-1043. 10. Chen G. D., Sun, L. N. and Xie M, 2009, Camera Calibration Based on Extended Kalman Filter Using Robot Motion, IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Singapore. 11. Li R. and Xie M, 2009, Development of Entertaining Robots: A Study into Intelligent Acquisition of Human Language in Robots, IEEE International Conference on Information and Automation, Zhuhai, China. 12. Gautam S. and Xie M. 2009. Investigation of Truly Cognitive and Autonomous Robots, IEEE International Conference on Information and Automation, Zhuhai, China. 13. Xie M, Zhong ZW, Zhang L, Yang HJ, Song CS, Li J, Xian LB and Wang L., 2008, Self Learning of Gravity Compensation by LOCH Humanoid Robot, IEEE International Conference on Humanoid Robots, Daejeon, South Korea. (Cited: 2) 14. Xian L.B, Xie M, 2008, Design of Human-like Leg-Foot for Human-Assisted Biped Walking, Intelligent Robotics and Applications, Lecture Notes in Computer Science, Springer, Volume 5314, pp 520-527. 15. L. Wang, M. Xie, Z.W. Zhong, H.J. Yang and J. Li, 2008, Design of Dexterous Arm-Hand for Human-Assisted Manipulation, Intelligent Robotics and Applications, Lecture Notes in Computer Science, Springer, Volume 5314, pp 1233-1240. 16. Xie M, Zhong Z. W., Zhang L., Xian L. B., Wang L., Yang H. J., Song C. S. and Li J., 2008, A Deterministic Way of Planning and Controlling Biped Walking of LOCH Humanoid Robot, 11th International Conference on Climbing and Walking Robots,

	<p>Coimbra, Portugal. (Recipient of Best Paper Award)</p> <ol style="list-style-type: none"> 17. Wang L., Xie M., Zhong, Z. W., Wang C. and Zhang L., 2008, Power Analysis and Structure Optimization in the Design of a Humanoid Robot, 11th International Conference on Climbing and Walking Robots, Coimbra, Portugal. 18. Zhang X. F., Yang Y., Xie M., Chen H., and Yu Z. P., 2008, Perception, Planning and Supervisory Control of an Unmanned Vehicle for 2010 World Expo, IEEE Intelligent Vehicles Symposium, Eindhoven, Netherlands. 19. Xie M., Chen Hui, Zhang Xue Fei, Guo Xi, Yu Zhuo Ping, 2007, Development of Navigation System for Autonomous Vehicle to Meet the DARPA Urban Grand Challenge, IEEE International Conference on Intelligent Transportation Systems, , United States. 20. Liu Yang, Li Shiqi, Xie M., 2007, Design and Implementation of a New Single-Motor Driven Arm Manipulator, IEEE International Conference on Mechatronics and Automation, China. 21. KANDHASAMY SADHASIVAM JAYAKUMAR, Xie M., 2006, Biologically Inspired Approach to Robot Intelligence: Spatial Language Learning in Virtual Environment, IEEE International Conference on Robotics and Biomimetics, December 17-20, 2006, China 22. Hendra Purnawali, Zhou Yuan, Xie M., 2005, Analysis and Simulation of a Wheeled-Vehicle with Auxiliary Wheels of Involute Shape (AWIS), IEEE/ASME International Conference on Advanced and Intelligent Mechatronics, United States. 23. Xie M., Guo Dong, Rinaldo Christian Tanumara, 2005, The Essence of Developmental Vision, 9th International Conference on Cognitive and Neural Systems, United States, Boston University. 24. Xie M., 2004, Robot Vision: A Holistic View, International Conference on Climbing and Walking Robots, Spain. 25. KANDHASAMY SADHASIVAM JAYAKUMAR, Xie M., 2004, From Text to Images Through Meanings, International Conference on Advances in Computer Entertainment Technology, June 3-5, Singapore. 26. Zhou Yuan, Xie M., 2004, Design of a Mobile Platform with Passive Involute-Shape Auxiliary Devices, IEEE International Conference on Mechatronics, June 3-5, Turkey. 27. Xie M., Kandhasamy S. Jayakumar, Chia Hon Fai, 2004, Robot Intelligence: Towards Machines that Understand Meanings, International Symposium of Santa Caterina on Challenges in the Internet and Interdisciplinary Research, Amalfi, Italy, Jan 29 - Feb 1, 2004., Italy. 28. Hendra Purnawali, Li Mingjian, Xie M., 2003, Concept and Implementation of Passive Elastic Joint for Robot Systems, International Symposium on Measurement and Control in Robotics, Madrid, Spain, Dec 10 - 12, 2003., Spain, pp. 7-12. 29. Wu Z., Xie M., Zhang Sheng, 2003, Preliminary Test for Vision Based SPC, 7th Asian Symposium on Visualization, Singapore. 30. Li Mingjian, Zhou Yuan, Xie M., 2003, Design and Control of A Cable-free and Single-motor-driven Dexterous Robot Hand, 7th International IFAC Symposium on Robot Control, Poland, pp. 411-416. 31. Guo Dong, Yan Yonghua, Xie Ming, 2002, Vision-based Hand Gesture Recognition for Human-Vehicle Interaction, Seventh International Conference on Control, Automation, Robotics and Vision, Singapore. 32. Yuan Miaolong, Xie M., 2002, An Incremental Representation of Conceptual Symbols Using RCE Neural Networks, IEEE International Conference on Development and Learning, United States, IEEE Computer Society, pp. 102-107. 33. Xie M., 2002, A Developmental Principle for Robotic Hand-Eye Coordination Skill, IEEE International Conference on Development and Learning, , United States, IEEE Computer Society, pp. 108-113. 34. Yuan Miaolong, Xie M., Yin Xiaoming, 2002, Robust Cooperative Strategy for Contour Matching Using Epipolar Geometry, Asian Conference on Computer Vision, Australia, Monash University. 35. Xie M., Yuan Miaolong, Yin Xiaoming, 2001, Vision Functions for Humanoid Robot,
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<p>科研成果 (研究报告)</p>	<ol style="list-style-type: none"> 1. Xie M., 1989, Contribution to Dynamic Vision: 3D Reconstruction of a Polyhedral Scene By Using a Moving Camera, pp. 1-196. 2. Xie M., 1989, Dynamic Vision: Does 3D Scene Perception Necessarily Need Two Cameras or just One? 3. Xie M., Rives P, 1989, Vision 3D: une nouvelle methode de triangulation pour la vision monocular ou polycular en mouvement. 4. Xie M., Rives P, 1988, Un algorithme efficace pour la mise en correspondance des segments 2D dans une sequence d'images. 5. Xie M., Rives P, 1988, Identification des polygones 3D a partir des segments 3D. 6. Xie M., Rives P, 1988, Estimation des segments 2D: An algorithme robuste.
<p>科研成果 (发明专利)</p>	<p>技术发明专利:</p> <p>1999, 可快速更换的电动汽车电池箱 (Zhu Haihong, Xie Ming, Lim Mong King), PCT/SG99/00063 (受理)</p> <p>2000, 单电机驱动的多自由度机械手臂(Zhu Haihong, Xie Ming, Lim Mong King) , PCT/SG00/00002 (受理)</p> <p>2007, 智能汽车辅助导航和自动兼辅助驾驶系统(Xie Ming), ZL 2007 1 0026633.X (授权日期: 2010.10.13)</p> <p>2007, 自主伺服式太阳能系统(Xie Ming), ZL 2007 1 0032896.1 (授权日期: 2011.4.13)</p> <p>2009, 便于外置安装、便于手动/自动切换的车辆自动驾驶系统(Xie Ming) , ZL 2009 1 0037540.6 (授权日期: 2012.12.12)</p> <p>2009, 基于自然语言的人机对话系统(Xie Ming), ZL2009 1 0040170.1 (授权日期: 2014.02.12)</p> <p>2012, 一种车载标定的方法、设备及其系统 (Xie Ming, Zhang Jiwen), ZL 2012 1 0371256.4 (授权日期: 2015.10.10)</p> <p>2013, 一种汽车刹车安全提示控制系统及安全提示控制方法(Xie Ming, Zhang Jiwen), ZL 2013 1 0163955.4 (授权日期: 2015.10.30)</p> <p>2013, 一种无变形的全方位鱼眼摄像装置及实施方法(Xie Ming, Zhang Jiwen), ZL 2013 1 0284083.7 (审核)</p> <p>2013, 一种全景图像合成和显示的方法及装置(Xie Ming, Zhang Jiwen), ZL 2013 1 0019868.1 (授权日期: 2015.12.10)</p>

	<p>2013, 一种具有双自由度连杆模块的机械手臂, ZL 2013 1 0104411 (审核)</p> <p>实用新型专利: 2012, 可自动/手动调整的车载双目视仪 (Xie Ming, Zhang Jiwen, Li Qingjian), ZL 2012 2 0595973.0 (授权日期: 2013.5.29) 2014, 一种自动收银装置和系统 (Xie Ming, Zhang Jiwen), ZL 2014 2 0081138.4 (授权日期: 2014.10.1) 2015, 一种便携式行李车 (Xie Ming, Zhang Jiwen), ZL 201520373606.X (授权日期: 2015.9.30)</p>
科研成果 (荣誉奖励)	1996 年 世界自动化年会最佳论文奖 (法国) (1996.5.9) 1997 年 CrayQuest 超级计算机竞赛金奖 (新加坡) (1997.9.20) 1998 年 CrayQuest 超级计算机竞赛冠军大奖 (新加坡) (1998.9.20) 2008 年 国际爬行与步行机器人会议最佳论文奖 (葡萄牙) (2008.9.9) 2009 年 春晖杯创新创业大赛二等奖 (中国) (2009.12.25) 2010 年 春晖杯创新创业大赛一等奖 (中国) (2010.12.20) 2012 年 Industrial Robot: An International Journal 的最佳论文奖 (英国) 2013 年 新加坡科技局 A-Star 最佳研究主意奖 (新加坡) 2014 年 中国光华龙腾设计奖银质奖牌 (中国) (2014.12)
社会活动 (科教服务)	1989 至 1993 年欧洲智能汽车项目成员 1994 年亚洲电子公司技术顾问 1994 年新加坡港务局项目技术顾问 1999-2003 年中国<<自动化学报>>编委 2002 年至 2004 年华东科技大学第一任期客座教授 2006 年新加坡宇航公司技术顾问, 2007 年索尼公司技术顾问 2006 年至 2008 年华东科技大学第二任期客座教授 2007 年美国 DARPA 无人驾驶汽车大赛亚洲队伍的技术顾问 2009 年法国里尔科技大学客座教授 2010 年日本熊本国立大学客座教授 2012 年新加坡电力公司的技术顾问
社会活动 (创新创业)	2001: 东风武汉电动车辆有限公司创始人之一 (周济院士/部长也是创始人之一) 2006: 珠海智汽电子科技有限公司创始人 2007: Humanoid Robotics Pte Ltd 创始人 2010: 上海智汽电子科技有限公司创始人 2011: 昆山智汽电子科技有限公司创始人 2012: 南京妙手机电科技有限公司创始人 2015: 泉州南工机器人研究所有限公司创始人之一 2016: 山东南工机器人科技有限公司创始人之一 2016: 江苏南工机器人研究院有限公司创始人之一 2016: Super Robots Corporation Pte Ltd 创始人之一 2017: 中新 (扬州) 超级机器人科技有限公司创始人之一
其他荣誉	2011 年上海市千人计划专家 2011 年昆山市创新创业人才 2012 年南京市 321 计划专家

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专长简介

谢明现为新加坡南洋理工大学副教授（终身教职）。现在的研究领域是人工智能理论、无人驾驶技术和人形机器人技术。发表了专著 2 部、编著 3 部、SCI 期刊论文 30 多篇、EI 检索的会议论文 100 多篇。获得 8 个授权的发明专利、4 个授权的实用新型专利、两篇最佳论文奖、5 项创新奖。主要创新成果包括：

1. 在人形机器人的头眼协调研究方向，首创了确定性算法。这项成果获最佳论文奖，并发表在：Xie M., 1996, [Head-Eye Coordination: A Closed-Form Solution](#), *Second World Automation Congress*, France, TSI Press, pp. 783-790.
2. 在人形机器人的手眼协调研究方向，首创了基于双目视觉的循环算法。这项成果在新加坡国家电视台得到深度报道和宣传，并发表在：M. Xie, 1997, *Visual Servo Control with Uncalibrated Vision: A Theory and Experiments*, IES Journal, Vol. 37, No. 1, pp. 13-21.
3. 在人工智能的视觉研究方向，首创了三维重建的逆向算法。这项成果获最佳创新奖，并发表在：Zhang Yu, Xie M., 1998, New Principle for Passive 3D Scanner, *Third World Automation Congress (ISOMA-043)*, United States, TSI Press, pp. 1-6.
4. 在无人驾驶的路轨规划研究方向，首创了并行泊车的运动轨迹逆向规划方法（比日本 Toyota 汽车公司早四年）。这项成果攻克了无人驾驶技术的关键难题。这项成果发表在：Xu J., Xie M. and Lu J. Z., 2001, [Duplex Motion Planning Strategy for Automatic Manoeuvre of Vehicle in Complex Environment](#), *IEEE International Conference on Intelligent Transportation Systems*, , United States.
5. 在人形机器人的机电一体化设计方向，首创了单个电机独立驱动 N 个关节的设计技术。申请了 PCT 专利保护。这项成果发表在：M. Xie, 2003, [Fundamentals of Robotics: Linking Perception to Action](#), *World Scientific Publishing Co.*
6. 在无人驾驶的环境感知研究方向，首创了全景图像合成的投影技术。这项成果获发明专利授权（ZL 2013 1 0019868.1）。
7. 在人工智能的视觉研究方向，首创了图像无变形的鱼眼摄像头的复合技术。这项成果获发明专利授权（ZL 2013 1 0284083.7）。
8. 在人工智能的新一代理论方向，首创了基于自然语言的智能理论。这项成果发表在：M. Xie, 2009, [Five Steps of Evolution from Non-life to Life-like Robots](#), *International Journal of Humanoid Robotics*, Vol. 6, No. 2, pp. 307-327.

谢明在理论创新和技术创新两大环节都表现出争优争先的创造力。在服务创新方面，谢明也有建树。领导过南京工业大学自动化学院，以及 10 多个科研团队。至今，还活跃在教育、科研、服务的第一线。