

鄭宇恒同學 Yuu-Heng Alice Cheng

(1977.11.21 – 2010.08.14)

鄭宇恒同學 1995 年畢業於高雄市左營高中，甄選就讀國立交通大學 (NCTU: National Chiao Tung University) 資訊工程系，於 1999 年獲得工程學士，2001 年獲碩士學位。NCTU 研究所畢業後，至美國 Telcordia 公司擔任研究員，逝世前，已是資深研究員(Senior Research Scientist)。

學歷：研究所：2001 碩士，NCTU 資訊工程（現為資訊科學與資訊工程研究所）

大 學： 1999 學士，NCTU, 資訊工程學系

高 中： 1995 高雄市 左營高中

喜愛的佳言： "Not overwork but overflow"

宗教信仰： Jesus Follower（耶穌的跟隨者）

愛好： Contemporary worship music（當代敬拜聖樂）

興趣： Swimming, Music, Computer, Dancing, Filming, Bass guitar, Snowboarding, Apple Inc.,
Movies

喜愛的歌手，樂團： Chris Tomlin, Justpassingthru, MercyMe, Hillsong, Josh Groban, Casting
Crowns, Phillips, Craig & Dean, Selah

喜愛的書籍： Mutant Down Under, The Bible, Harry Potter

喜愛的電影： The Matrix, Seven Years in Tibet, Jerry Maguire, Shawshank Redemption, The Lord of
the Rings film trilogy, Howl's Moving Castle, Alice in Wonderland, The Incredibles,
Ratatouille, Monsters, Inc.

學術專業： 包含 Policy-Based Network Management, Network Security, Wireless Communication
Networks, Distributed Systems。學術期刊與研發報告發表 10 餘篇，並與同仁共有
7 項相關網路通訊建構等的專利。

YUU-HENG ALICE CHENG

(1977.11.21 – 2010.08.14)

EDUCATION:

MS (2001) Computer Science and Information Engineering (CSIE), NCTU

BS (1999) CSIE, NCTU

RESEARCH INTERESTS: Network and service management for IP-based wireline or wireless ad hoc networks, software engineering, database design and implementation, and personal communication systems.

EXPERTISE:

- Network/Comm. Protocols: TCP, IP, UDP, HTTP, WAP, ICAP, SIP, SNMP, MIH
- World Wide Web application implementation: JSP, JavaScript, Resin Web server
- Database design and implementation with MySQL
- Software architecture design and implementation for networking system
- Software engineering. Familiar with CVS, SVN, and Mercurial versioning systems
- System engineering and testing
- Programming Languages: C/C++, Java, HTML, WML, XML, SQL
- Ad hoc and wireless networks, mobile computing
- IP network architecture design and router configuration
- Embedded system implementation with Java Micro Edition (JME)
- Familiar with Symbian OS

PROFESSIONAL EXPERIENCE:

- Telcordia Technologies, Senior Research Scientist (2010):
 - Dynamic Re-Addressing and Management for the Army (CERDEC DRAMA) project: database design, software implementation, and system integration and demonstration.
 - Automated Vulnerability Assessment of Critical Cyber-Infrastructure Through Policy-based Configuration Synthesis (CSRD AVACC) project: a policy-based network validation system for IP networks and IP VPNs.
- Telcordia Technologies, Research Scientist (2006 – 2010):
 - 2008-2010: Policy subsystem lead for DARPA project ZODIAC.
 - 2007-2010: Architecture design and technical lead for IEEE 802.21 Media Independent Information Service prototyping on Linux, Windows, and Symbian OS.
 - 2007-2008: System engineering and architecture design for Telcordia new product “IP Assure”.
- Telcordia Technologies, Research Scientist (2001 – 2006):
 - 2006: Implement SIP re-INVITE flow into SIP Communicator (Java open source SIP client) for supporting ITSUMO seamless handover demo.

- 2006: Continuous work on DRAMA node mobility. Also working on AVACC project which provides an offline vulnerability and IPSEC validation for CISCO routers and Nokia VPN Gateways.
- 2004-2005: Worked on DRAMA project which provides distributed policy agents for network management on mobile ad hoc networks. Design and implement database access, policy distribution and naming update. Maintain software versioning and customer support on bug fixes and code enhancements. Implement and execute demo scenarios.
- 2001 – 2003: Worked on Policy-Based Network Management project that automates QoS over service provider network. Designed and implemented database access for the system. Facilitated and validated prototype testing environment.
- 2002: Worked on email virus detection system. Designed and implemented automated email activity emulation system that provides a validation and testing environment for the virus detection system.
- 2001: Wireless Call Agent. Design and implement components for data access and service provisioning.
- Far EastTone Telecommunications Co. Ltd, Developer (1999 – 2001):
 - Major contributions to the design and development of WAP related applications

PROFESSIONAL ACTIVITIES AND HONORS:

- IEEE Member, IEEE-SA Member, ACM Member (2007 – 2010).
- 2009 October. FMCA Plugtests organized by Seamless Mobility Special Interest Group for Media Independent Handover Interoperability.
- 2009 Certificate of Appreciation, IEEE Standards Association for accomplishing IEEE Std. 802.21-2009 specification.
- 2009 Appreciation Letter by IEEE 802.21 WG editor in editing support and technical comment resolution for the publication of IEEE Std. 802.21-2008.
- 2007-2008 Editing team, IEEE 802.21 Working Group.
- 2007-2008 Secretary, IEEE 802.21 Security Study Group.
- 2007 JSR 307 Network Mobility and Mobile Data API.
- 2000 2nd place and Most Creative Application, Ericsson Chinese WAP Application Design Contest.
- 1999 Collegiate Creative Study Award, National Science Council, Taiwan.
- 1999 Phi Tau Phi Scholastic Honor Society, Taiwan.
- 1999 CSIE Website Lead, CSIE, NCTU, Taiwan.
- 1999 Department Circular Designer, CSIE, NCTU, Taiwan.
- 1999 Editor, “The Graduate yearbook 1999”, CSIE, NCTU, Taiwan.
- 1999 Representative, Graduate Student Association, NCTU, Taiwan.
- 1998 August. Assistant Judge, Senior High School Computer Programming Contest, Taiwan.
- 1998 Yen’s scholarship of 1998.

- 1996-1998 Academic Achievement Award of NCTU, Taiwan.

PATENTS:

GRANTED

1. Y. Alice Cheng and Y. Ohba, "METHOD AND FUNCTION FOR MAINTAINING MAPPING BETWEEN MEDIA-INDEPENDENT HANDOVER FUNCTIONS AND TRANSPORT ADDRESSES," WO/2009/114172, 17 September 2009. PCT/US2009/001587, 12 March 2009.
2. R. Talpade, L. Bahler, Alice Cheng, S. Gadgil, A. Poylisher, "SYSTEM FOR EXTRACTING AND COMBINING INFORMATION FROM IP DEVICE CONFIGURATIONS, INVENTORY SYSTEMS, AND REAL-TIME NETWORK MONITORING," WO/2009/097431, 6 August 2009. PCT/US2009/032441, 29 January 2009. APP1825. Filed Jan 29, 2008.
3. V. Fajardo, Y. Ohba, Y. Alice Cheng, "ARCHITECTURE FOR MULTIPLE MIH USERS," WO/2009/008528, 15 January 2009. PCT/JP2008/062647, 7 July 2009.
4. Y. Ohba, Subir Das, Y. Alice Cheng, M. Tauil, K. Taniuchi. "DATA TYPE ENCODING FOR MEDIA INDEPENDENT HANDOVER," US Patent WO/2008/140817, 20 November 2008. PCT/US2008/006074, 12 May 2008.
5. Y. Ohba and Y. Alice Cheng, "SYSTEMS AND METHODS FOR CURRENCY QUERYING," WO/2008/126937, 23 October 2008. PCT/JP2008/057387, 9 April 2008.
6. Rajesh Talpade, Sanjai Narain, Alice Cheng, Alex Poylisher, "IP NETWORK VULNERABILITY AND POLICY COMPLIANCE ASSESSMENT BY IP DEVICE ANALYSIS," US Patent WO/2008/105829. 4 September 2008. PCT/US2007/019844, 12 September 2007.
7. Y. Ohba, Y. Alice Cheng, S. Das, and K. Taniuchi. "PRIORITIZED QUERIES IN MEDIA INDEPENDENT HANDOVERr," WO/2008/091000, 31 July 2008. PCT/JP2008/051144, 21 January 2008.

PENDING

- Y. Ohba, V. Farjardo, G. Parmar, and Y. Cheng, "EFFICIENT AND LOSS TOLERANT METHOD AND MECHANISM FOR MEASURING AVAILABLE BANDWIDTH." APP 1886. Filed Feb 13, 2009.
- Y. Cheng, A. Poylisher, S. Gadgil, A. Naidu, R. Talpade, "VERSIONING RELATIONAL DATABASE DISJOINT RECORDS." APP1853. Filed July 31, 2009.
- R. Vaidyanathan, Y. Cheng, S. Wagner, "System and method for self-forming clusters of network elements for maintaining a distributed configuration repository." APP1931. Oct 2009.
- R. Vaidyanathan, A. Ghosh, Y. Cheng, "METHOD AND APPARATUS FOR DETECTING SPOOFED NETWORK TRAFFIC." APP 1962, July 2009.
- C. Chiang, et al., "Framework and techniques enabling functional testing and performance evaluation of distributed software systems by using a simulated network," 2005.
- L. Bahler, Y. Cheng, S. Gadgil, A. Poylisher, R. Talpade, "System and Method for Extracting and Combining Information from IP Device Configurations, Inventory Systems, and Real-time Network Monitoring," (APP1825), 2007. (PROVISIONAL)
- V. Fahardo, Y. Ohba, Y. Cheng, "An Architecture for multiple MIH users in an 802.21 entity",

2007.

- Y. Cheng and Y. Ohba, “A Method for Maintaining Mapping between Media-Independent Handover Function and Transport Address,” 2008.

SELECTED PUBLICATIONS:

1. Yuu-Heng Cheng, Abhrajit Ghosh, Ritu Chadha, Gary M. Levin, Michelle Wolberg, C. Jason Chiang, and Gregory Hadynski, “Managing Network Security Policies in Tactical MANETs using DRAMA,” MILCOM 2010.
2. Miriam Taul, Ahutosh Dutta, Yuu-Heng Cheng, Subir Das, Donald Baker, Maya Yajnik, and David Famolari, Yoshihiro Ohba, Victor Fajardo, Kenichi Taniuchi, “Realization of IEEE 802.21 Services and Preauthentication Framework,” Tridentcom April 6-8, 2009, Washington DC.
3. Kenichi Taniuchi, Yoshihiro Ohba, Victor Fajardo, Subir Das, Miriam Taul, Yuu-Heng Cheng, Ashutosh Dutta, Donald Baker and Maya Yajnik, “IEEE 802.21: Media Independent Handover - Features, Applicability, and Realization”, IEEE Communication Magazine. January 2009.”
4. Sanjai Narain, Y. Alice Cheng, Alex Poylisher, Rajesh Talpade, “Network Single of Failure Analysis via Model Finding,” Point Portland, Oregon, November 6, 2006.
5. C. Chiang, et al., “Performance Analysis of DRAMA. A Distributed Policy-Based System for MANET Management,” Proceedings of the Military Communications Conference (MILCOM 2006), October 2006.
6. Ritu Chadha, Yuu-Heng Cheng, Jason Chiang, Gary Levin*, Shih-Wei Li, Alexander LaVergne, Scott Newman. “Scalable Management for Ad Hoc Networks” MILCOM 2005.
7. Cho-Yu Chiang, Ritu Chadha, Yuu-Heng Cheng, Gary Levin, Shiwei Li, Alexander Poylisher. “A Novel Software Agent Framework with Embedded Policy Control” MILCOM 2005.
8. Cho-Yu Chiang, Ritu Chadha, Gary Levin, Shiwei Li, Yuu-Heng Cheng, Alexander Poylisher. “AMS: An Adaptive Middleware System for Wireless Ad Hoc Networks” MILCOM 2005.
9. R. Chadha et al., “Policy-Based Mobile Ad Hoc Network Management for DRAMA”, Proceedings of the Military Communications Conference (MILCOM 2004), Monterey CA, October 31-November 3, 2004.
10. R. Chadha et al., “Policy-Based Mobile Ad Hoc Network Management”, Proceedings of the IEEE 5th International Workshop on Policies for Distributed Systems and Networks, June 7-9 2004.
11. Herman Rao, Y.-H. Cheng, K.-H. Chang, and Yi-Bing Lin. iMail: A WAP Mail Retrieving System. Information Sciences, 151: 71-91, 2003.
12. Ritu Chadha, Yuu-Heng Cheng, Thanh Cheng, Shrirang Gadgil, Abdelhakim Hafid, Keith Kim, Gary Levin, Narayanan Natarajan, Kirthika Parmeswaran, Alexander Poylisher, John Unger(2002) “PECAN: Policy-Enabled Configuration Across Networks” Policies for Distributed Systems and Networks, 2003. Proceedings. POLICY 2003. IEEE 4th International Workshop on 4-6 June 2003 Page(s):52 - 62

13. B. Falchuk, J. Chiang, A. Hafid, Y.-H. Cheng, N. Natarajan, F.J. Lin, H.Cheng (2002) "An Open Service Platform for Deploying and Managing Services at Network Edges," Open Architectures and Network Programming, 2003 IEEE Conference on 4-5 April 2003 Page(s):77 - 86
14. Lin, Y.-B., Cheng, H.-Y., Cheng, Y.-H., and Agrawal, P. (2002), Implementing Automatic Location Update for Follow-Me Database using VoIP and Bluetooth Technologies, IEEE Trans. on Computers Postscript, 51(10):1154-1168.
15. Herman Rao, Y.-H. Cheng, K. -H. Chang, Yi-Bing Lin. (2000) "iMail: A WAP Mail Retrieving System," Proceedings of International Computer Symposium 2000.
16. Yuu-Heng Cheng, Yuan-Ying Hsu, H.-L Chou, Zen Chen. (2000) "Reconstruction of 3D Objects from Multiple Silhouette Images: Shape Estimation and Texture Mapping," CVGIP2000.
17. Wen-Hsin Yang, Yuu-Heng Cheng, Kai-Hsiung Chang. (1999) "Introduction to Wireless Application Protocol," CCL Technical Journal, 85:37-44.