# Yun-Gyung Cheong

Samsung Advanced Institute of Technology, CTO
Samsung Electronics Co., LTD.
South Korea
office: +82-31-280-9685; fax: +82-31-280-9859
aimecca@gmail.com
http://user.chollian.net/~quietusi/research/

## RESEARCH INTERESTS

Artificial Intelligence, Computational Models of Narratives, Narrative and Discourse Generation, Interactive Storytelling, Cognitive Models, Natural Language Generation, Intelligent User Interface

## EDUCATION

Doctor of Philosophy in Computer Science, North Carolina State University, Raleigh, NC, USA, August, 2007
Dissertation Title: *A Computational Model of Narrative Generation for Suspense*
Dissertation committee:
    R. Michael Young, Ph.D. (chair), Department of Computer Science, NC State University.
    James Lester, Ph.D., Department of Computer Science, NC State University
    Munindar P. Singh, Ph.D., Department of Computer Science, NC State University
    Brad Mehlenbacher, Ph.D., College of Education and Psychology, NC State University

Master of Science in Information Engineering, Sungkyunkwan University, Seoul, South Korea, 1998
Thesis Title: *A Study on Tracking and Predicting the Face Trajectories Using a Neural Network*
Advisor: Moon-Hyun Kim, Ph.D., Computer Engineering at Sungkyunkwan University.

Bachelor of Science in Information Engineering, Sungkyunkwan University, Seoul, South Korea, 1996

## PUBLICATIONS

**Papers in Conferences:**

An Interactive-Content Technique Based Approach to Generating Personalized Advertisement for Privacy Protection. Min, Wook-Hee and Cheong, Yun-Gyung. To appear in *HCI International Conference (HCII 2009)*, San Diego, California, USA, 19-24 July 2009.

Narrative Generation for Suspense: Modeling and Evaluation. Cheong, Yun-Gyung and Young, Michael, In *Interactive Storytelling (ICIDS 2008)*, Erfurt, Germany, November 26-29, 2008.

PRISM: A Framework for Authoring Interactive Narratives by Cheong, Yun-Gyung, Kim, Yeo-Jin, Min, Wook-Hee, Shim, Eok-Soo, and Kim, Jin-Young, In *Interactive Storytelling (ICIDS 2008)*, Erfurt, Germany, November 26-29, 2008.

Automatically Generating Summary Visualizations from Game Logs. Cheong, Yun-Gyung, Jhala, Arnav, Bae, Byung-Chull, and Young, Michael, In the *Second Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2008)*, Stanford, CA, USA, October 22-24, 2008.

A Framework for Summarizing Game Experiences as Narratives. Cheong, Yun-Gyoung and Young, R. Michael, In the *Second Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2006)*, Marina del Rey, CA, USA, June 20-23, 2006.

Prediction of Eye Trajectories Based on the ART Neural Network. Jong-Hei Ra, Cheong, Yun-Gyung, Moon-Hyun Kim. In *International Conference on Artificial Intelligence (IC-AI2000)*, Las Vegas, NV, June 2000.

**Symposia and workshop publications**

Planning-Integrated Story Graph for Interactive Narratives. Cheong, Yun-Gyung, Min, Wook-Hee, Shim, Eok-Soo, Kim, Yeo-Jin, and Kim, Jin-Young. In *ACM Multimedia 2008 SRMC (Story Representation Mechanism Context) Workshop*, Vancouver, BC, Canada, October 27-31, 2008.

A Computational Model of Narrative Generation for Suspense. Cheong, Yun-Gyung, and Young, R. Micahel, In the *AAAI 2006 Computational Aesthetic Workshop*, Boston, MA, USA, July 16, 2006.

A Computational Model of Narrative Generation for Suspense. Cheong, Yun-Gyung, In the *AAAI Doctoral Consortium*, Boston, MA, USA, July 16-17, 2006.

Operation & Maintenance System for Replicated HLR in Mobile Communications. Cheong, Yun-Gyung, Sung-Ah Kim, Moon-Suk Chung. In *Proceedings of the Korea Institute of Communication Sciences Workshop*, Vol. 22, No.1, pp. 220-223, October 2000.

Fraud Detection & Management System in Mobile Communications. Cheong, Yun-Gyung, Hyoung-Sun Park, Moon-Suk Chung. In *Proceedings of the Korea Institute of Communication Sciences Workshop*, Vol. 19, No.2, pp. 1374-1377, 1999.

**Other Publications:**

*Automatic Generation of Warning Instructions from Plan Spaces*. Yun-Gyung Cheong. Technical Report TR04-002, Liquid Narrative Group, Department of Computer Science, North Carolina State University, 2004.

## PATENS

*Automated Knowledge Engineering from Branching Graphs*. Yun-Gyung Cheong. Korea Patent No. P2008-0100630.

*Automated Contents Link*. Yeo-Jin Kim, Yun-Gyung Cheong, Wook-Hee Min, Eok-Soo Shim. Korea Patent No. P2008-0076202.

*Story Map Construction for Interactive Content*. Yeo-Jin Kim, Yun-Gyung Cheong, Wook-Hee Min, Eok-Soo Shim. Korea Patent No. P2008-0061971.

*Terminal Equipment Fraud Sensing And Management Method In Mobile Communication Network*. Yun-Gyung Cheong, Hyung-Sun Park, Moon-Suk Chung. Korea Patent No. 10-0298290-0000.

*Operator Command Processing Method In the MobileCommunication System*. Yun-Gyung Cheong. Korea Patent No. 10-0372342-0000.

*Terminal Fraud Sensing Management Apparatus and Method in Mobile Communication Network*. Yun-Gyung Cheong, Hak-Jae Shin. Korea Patent No. 10-2001-0002797.

## RESEARCH AND PROFESSIONAL EXPERIENCE

**Researcher, Samsung Advanced Institute of Technology**                  **3/2008–current**
**South Korea**

Interactive Storytelling on an Affective Robot Platform                 1/2009–current

Project leader; Investigating affective robot behavior frameworks; Designing interactive storytelling components on a TAME (Traits, Attitudes, Moods and Emotions) integrated robotic environment; Implementing a robot simulator for interactive storytelling; Integrating TAME on existing robot platforms; Autonomous avatars for a robot.

Interactive Story Authoring Systems                                    3/2008–12/2008

Project leader; Designed a complete architecture for interactive storytelling in a 3D graphic environment; Designed an xml schema for representing interactive story structures; Designed a framework that contains an animation content authoring tool and interactive story authoring tool using a TVML based 3D graphic engine; Managed a project for implementing authoring 3D procedural animation; Wrote proposals and technical reports

**Research Assistant, North Carolina State University**                **8/2004–5/2006**
**Raleigh, North Carolina, USA**

Computational Models of Narratives                                     8/2004–5/2006

Researched narrative generation and interactive drama; Designed and implemented an algorithm to summarize stories; Designed and developed a framework to create a suspenseful story using planning technique using Visual .NET; Designed heuristic functions to measure suspense that a user would feel; Designed a user reasoning model for narrative comprehension based on AI planning techniques; Designed and performed experimental studies to test the framework.

Mimesis                                                                8/2004–12/2004

Developed registry module for an intelligent distributed system in C#.NET; Implemented XML encoding and decoding modules; Implemented message routing in a distributed system.

Automated Warning Generation                                          8/2002–8/2003

Reviewed dynamic user interface literature and natural language generation techniques; Researched and developed a prototype of an automated prohibitive instruction generation system; Developed plan operators for dynamically generated instructions in Windows-based simulation environment.

**Assistant Researcher, Research and Development Center, LG Electronics**       **5/1998–3/2001**
**Seoul, South Korea**

Home Location Register

Implemented network management system interface on UNIX-based system; Implemented and maintained the operation and maintenance system using X Motif; Developed the operation and maintenance system for replicated HLR systems; Implemented real–time database manipulation interface; Developed web–based operation and maintenance system using C CGI, PHP, and Javascript; Trained new employees; Wrote user manuals and technical reports, and proposals.

Authentication Center

Researched security techniques; Designed and developed the fraud detection system using CLIPS; Maintained mobile applications protocol for the 2nd generation mobile systems; Implemented mobile applications protocol for the IMT-2000 systems; Implemented the operation and maintenance system; Held educational sessions for NEC developers; Wrote user manuals, technical reports, and proposals.

**Research Assistant, Sungkyunkwan University**                       **2/1996–2/1998**
**Seoul, South Korea**

Eye Detection in Dynamic Images                                       10/1996–2/1998

Researched neural network and dynamic image recognition; Applied ART neural network to predict eye trajectories; Devised an effective algorithm for eye detection; Wrote a technical report and managed project.

Segmentation of Korean Hand Written Characters                        3/1996–5/1997

Reviewed character recognition literature; Implemented a graphical user interface to hand written recognition component; Wrote a technical report and managed project.

## TEACHING EXPERIENCE

**Teaching Assistant, Department of Computer Science, North Carolina State University        2001–2004**
**Raleigh, North Carolina, USA**

CSC246: Concepts and Facilities of Operating Systems – Spring 2004, Summer 2004, Spring 2003
CSC512: Compiler Construction – Fall 2003
CSC540: Database Management Concepts and System – Fall 2002
CSC411: Introduction to Artificial Intelligence – Spring 2002, Fall 2001
Graded assignments and projects; Held office hours regularly; Assisted developing and grading exams;
Technical assistance with Java programming, C, MySQL, and LISP.

**Teaching Assistant, Department of Information Engineering, Sungkyunkwan University        1996–1997**
**Seoul, South Korea**

Lectured on UNIX and circuit practice to classes of over 40 students; Developed the course syllabus;
Developed lecture contents; Developed homework and tests; Graded homework and exams.

## HONORS AND AWARDS

Doctoral Consortium Scholarship to attend the Doctoral Consortium and AAAI conference 2006.
Awarded NCSU RA/TA Scholarship, Raleigh, NC, 2001–2006.
Awarded *Grand Prize for developing new enterprise*, LG Electronics, Seoul, South Korea, 1999.
Awarded *LG Industrial-educational cooperation program scholarship*, Seoul, South Korea, 1997.
Awarded *Information Engineering Graduate Scholarship*, Sungkyunkwan University, 1996–1997.

## PROFESSIONAL SERVICE

**Program Committee**
International Conference on Foundations of Digital Games (ICFDG), 2009.
Samsung Humantec Research Competition, 2009.

**Professional Society Membership**
American Association for Artificial Intelligence (AAAI)

## REFERENCES

**R. Michael Young, Ph.D.**
Department of Computer Science
Campus Box 8206
North Carolina State University
Raleigh, NC 27695
young@csc.ncsu.edu
+1.919.513.3038

**James Lester, Ph.D.**
Department of Computer Science
Campus Box 7535
North Carolina State University
Raleigh, NC 27695
lester@csc.ncsu.edu
+1.919.515.7534

**Jon Doyle, Ph.D.**
Department of Computer Science
Campus Box 8206
North Carolina State University
Raleigh, NC 27695-8206
doyle@csc.ncsu.edu
+1.919.513.0423

**David Herman, Ph.D.**
Department of English
Ohio State University
164 W. 17th Ave., Columbus
Columbus, OH 43210-1370
herman.145@osu.edu
+1.614.292.6123