

Byung-Chull (Leo) Bae

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RESEARCH INTERESTS

Artificial Intelligence, Planning, Interactive Digital Storytelling, Cognitive Science, Affective Computing

EDUCATION

Ph.D. in Computer Science, North Carolina State University, expected to complete in August 2009
Thesis: *A Computational Model of Surprise Arousal in Narrative Using Flashback and Foreshadowing*
DOCTORAL COMMITTEE: Dr. R. Michael Young (chair), Dr. James Lester, Dr. Brad Mehlenbacher, Dr. Robert Rodman

M.S. in Computer Science, North Carolina State University, December 2005
M.S. in Electronics Engineering, Korea University, Seoul, South Korea, February 1998
Thesis: *A study on Signal Interworking Between B-ISDN and PSTN*
ADVISOR: Duk-Jin Kim

B.S. in Electronics Engineering, Korea University, Seoul, South Korea, February 1993

PROFESSIONAL EXPERIENCE

Research and Development Center, LG Electronics, Anyang, South Korea
Assistant Researcher
Developed network layer protocols for W-CDMA/UMTS mobile device
Developed and tested pilot systems with Qualcomm, Nokia, NTT Docomo, etc.
Implemented application layer protocols for IMT-2000 /3GPP UMTS network
Developed hardware for Internetworking Function in the ATM data network
March 1998 – August 2002

HONORS

Best Paper Award (with 500 Euro Cash Prize) at the 1st International Joint Conference on Interactive Digital Storytelling, Erfurt, Germany, 2008

Computer Science Graduate Fellowship, Computer Science Department, North Carolina State University, Fall 2005 – Present

Industry-Academia Graduate Fellowship, LG Electronics, Seoul, South Korea, August 1996 – February 1998

PUBLICATIONS

Conferences:

Byung-Chull Bae and R. Michael Young. A Use of Flashback and Foreshadowing for Surprise Arousal in Narrative Using a Plan-Based Approach, in *Proceedings of the International Conference on Interactive Digital Storytelling (ICIDS-08)*, Erfurt, Germany, November 2008. **Best Paper**

Yun-Gyung Cheong, Arnav Jhala, Byung-Chull Bae, and R. Michael Young. Automatically Generating Summary Visualizations from Game Logs, in *Proceedings of the Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-08)*, October 2008.

Byung-Chull Bae and Duk-Jin Kim. A Study on the Modeling of the Application Process of the Interworking Unit for the Internetwork Signaling Between B-ISDN and PSTN. In *Proceedings of the Korea Institute of Telematics and Electronics Conference*, 20 (2): 177-180, 1997.

Other:

Byung-Chull Bae. A Computational Model of Foreshadowing in Narrative Generation, Oral Examination, North Carolina State University, August 2007

Byung-Chull Bae. Towards the Generation of Background Music for Multimedia Narratives, Written Examination, North Carolina State University, November 2005

PATENTS

UTOPIA Interface and Method for Transporting Data. Byung-Chull Bae. Registration no: 10-0379386-0000. 2003. LG Electronics. South Korea

RESEARCH EXPERIENCE

Department of Computer Science, North Carolina State University
Research Assistant

Creating Effective Task Descriptions from Action Plans (Project funded by US National Science Foundation)

Devised algorithms to generate task-oriented natural language instructions (specifically, negative imperatives) effectively using a plan-based cognitive user model

Implemented and tested various plan domains using Lisp, C#, and Unreal Script

January 2008 – August 2008

Department of Electronics Engineering, Korea University
Research Assistant

Protocol Internetworking between ATM and Existing Networks

Devised algorithms for protocol internetworking among various data networks such as ISDN (Integrated Services Digital Network), ATM (Asynchronous Transfer Mode), TCP/IP, and PSTN (Public Switched Telephone Network)

August 1996 – February 1998

TEACHING EXPERIENCE

Department of Computer Science, North Carolina State University
Teaching Assistant

Computational Models of Interactive Narrative (CSC582): Fall 2008

AI Programming (CSC591A): Spring 2007

Game Design and Development (CSC481): Fall 2006

Data Structures & Algorithm (CSC316): Fall 2007/ Spring 2006/ Fall 2005/ Summer 2004

Graded assignments, projects, and exams

Held office hours regularly

Provided technical assistance with Java programming, AI, and Lisp

Served as a substitute lecturer in the absence of the course lecturer

INVITED SEMINARS, PRESENTATIONS, and COLLOQUIA

Poster Presentation at the 4th Annual North Carolina State University Graduate Student Research Symposium, Raleigh, NC, March 2009

Invited Seminar at Samsung Advanced Institute of Technology (SAIT), *Introduction of Liquid Narrative Group Research and a Planning-based Story Generation*, Suwon, South Korea, May 2008

SKILLS

Languages: English (Fluent), Japanese (Familiar)

Programming: C, C#, Java, Lisp, JSP, CGI, XML, HTML, SQL, UnrealScript (UT2004)

PROFESSIONAL SERVICE

Reviewer: The 4th International Conference on the Foundations of Digital Games (FDG), 2009

Local Conference Organizer: The 6th International Conference on the Intelligent Virtual Agents (IVA), 2006

OTHER SELECTED ACTIVITIES

Member of Liquid Narrative Group in Computer Science Department at North Carolina State University, Fall 2003 – Present

One-on-one mentoring in Korean Conversation Club at North Carolina State University, Fall 2007 – Fall 2008