

**Dr. Lewis Charles Hill II**  
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## Objective

Seeking employment as an experienced software developer with special skills in software engineering, human computer interaction, mobile app development, immersive systems, and multimedia applications.

## Skills

*Programming Languages:* Objective-C (3 yrs.), C++ (10+ yrs.), Java/Swing (2.5 yrs.)

*Operating Systems:* Mac OS X / iOS, Linux, Windows

*Software/APIs:* XCode, Trolltech QT, OpenGL/ES, OpenAL, HTML, JQueryMobile, MIDI

*Methodologies:* Agile / Scrum, Waterfall, Ad-hoc.

## Experience

*iOS / Mobile Software Engineer, ProjectTiki, Minneapolis MN (March 2012-present).* Developer for iPhone/iPad and mobile apps. Developed social media interview camera app with Facebook and YouTube sharing, voice recognition and image captioning [<http://www.2camshoot.com>]. Extend and release medical records tracking application [<http://www.mywellnessjournalapp.com>]. Develop prototypes using Audio Signal Processing, 3D Graphics, Face Recognition, OCR, and more. Working from home using XCode, GitHub, TestFlight, BaseCamp, and PivotalTracker.

*Software Engineer / External Research Contractor, St Jude Medical, Little Canada, MN (Feb 2011 - Feb 2012).* Supported principal mathematician in development of electrical potential visualizations for a multi-spline cardiac diagnostic catheter (Boundary Element Method). Compare graphical and numerical results between software algorithms and various catheter configurations. Apply GPU and multi-core CPU parallelization methods in Trolltech QT / SCIRun.

*Senior Product Engineer, NAVTEQ, Chicago, IL (Sept 2010-Feb 2011).* Requirements and Process Analyst for JourneyView panoramic imagery / GIS mapping system. Interface with agile team, external contractors, and design requirements for customer facing websites.

*Software Engineer II, St. Jude Medical, Little Canada, MN (March 2007-Aug 2010).* OpenGL graphics software development for EnSite Cardiac Mapping System and EnSite Contact Display. Design and implement frame buffer accelerated Waveform Drawing. Ported Linux/C++ code to Trolltech QT Framework. [<http://www.ensitevelocity.com>]. Patent #US8406866 B2 Deno, Don Curtis. ‘System and method for assessing coupling between an electrode and tissue’.

*Research Assistant, Virtual Reality Applications Center, Iowa State University, Ames, IA (1996-2000, 2003-2006).* Researched and developed several interdisciplinary immersive virtual

environments including: Virtual Architecture Design Tool, Shell Immersive Oil Exploration, Java-based Palmtop Interaction Device, Conceptual Design of Feature-Based Adaptive Interfaces, and Synesthetic Musical Experience Communicator. MS Thesis, Ph.D Dissertation. Publications. Presentations.

*Software Engineer II, Structural Bioinformatics Inc. (Cengent Therapeutics), San Diego, CA (July 2001-May 2003).* Developed bioinformatics visualization and client/server data mining applications. Extended 3D protein display functionality. Implemented Java/Swing user interfaces and Java2D clustering analysis displays. Implemented protein bonding and analysis code. Administered ClearCase version control software.

*Software Engineer, Greystone Digital Technologies, San Diego, CA (January 2001-June 2001).* Research and prototype mobile device and ubiquitous application concepts. Virtual InfoSpace.

*Software Engineer (co-op), Rockwell Collins, Cedar Rapids, IA (Spring and Fall 1996).* Developed global positioning system and flight management systems software.

*Software Engineer (intern), McDonnell Douglas, St. Louis, MO (Summer 1995).* Distributed structural analysis software performance across multiple UNIX hosts.

## **Education**

*Doctor of Philosophy in Human Computer Interaction / , Research Excellence Award, Dec. 2006*  
Dissertation: Synesthetic Music Experience Communicator  
Iowa State University, Ames IA; GPA: 3.75 / 4

*Master of Science in Computer Engineering, Research Excellence Award, Dec. 2000*  
Thesis: Usability of 2D Palmtop Interaction Device in Immersive Virtual Environments  
Iowa State University, Ames, IA; GPA: 3.84 / 4

*Bachelor of Science in Computer Engineering with Distinction, May 1998*  
Iowa State University, Ames, IA; GPA: 3.87 / 4

*Concepts/Courses:* Software Engineering, Computer Graphics, Interface Design and Evaluation, Interaction Methods for Emerging Technologies, Virtual Reality, Complex Adaptive Systems, Computer Game Design and Development, Computer Systems Security, Human Factors, Cognitive Science of Human Computer Interaction (HCI), Ethics of HCI, Indep. Study on Music Theory and Comp., Statistical Methods, Synesthesia.

## **Patents / Publications**

Deno, Don Curtis. 2013. System and method for assessing coupling between an electrode and tissue. U.S. Patent US8406866 B2. [<http://www.google.com/patents/US8406866>]

Cerney, M., Mila, B., and Hill, L. "Comparison of Mobile Text Entry Methods", Human Factors and Ergonomics Society 48th Annual Meeting, New Orleans, LA., 2004.

Moezzi, S., Tudor, S., Hill, L., Fisher, C., Shenderovich, M., and Ramnarayan, K., "Variome: A Visual Programming Environment for Bioinformatics Data Mining", 16th Symposium of the Protein Society, San Diego, CA. 2002. Poster.

Hill II, L., and Cruz-Neira, C. "Palmtop Interaction Methods for Immersive Projection Technology Systems", Fourth International Immersive Projection Technology Workshop, IPT-2000, Iowa State University, Ames, IA. 2000. Presentation.

Chan, C. S., Hill II, L., and Cruz-Neira, C. "Is It Possible to Design in Full Scale? A CAD Tool in a Synthetic Environment", Proceedings of CAADRIA-99, Shanghai Scientific and Technological Literature Publishing House, Shanghai, China. 1999. Presentation.

### **Selected Professional Activities**

- Attended SIGGRAPH 2010, 1996-2000, Student Volunteer / Team Leader.
- NVIDIA GPU Technology Conference, San Jose October 2009.
- Dissertation Research Interview, WHO TV, Channel 13 Des Moines, May 2006.
- Assisted Living 2, Virtual Reality Augmented Dance Performance, April 2005.
- VR Demonstrations: Supercomputing'99, IPT'98,'00,'04. ISU HCI Forum '04, '05, '06.

### **Awards and Honors**

- Iowa State University Research Excellence Award (2000, 2006)
- Iowa African American Hall of Fame, *The Future is Now Award* (2006)
- Iowa AGEP Doctoral Fellowship (2003-2006), G.W. Carver Scholar
- Golden Key, Tau Beta Pi, Eta Kappa Nu, Honor Societies

### **Hobbies**

RC Helicopters (3D) / Quadcopters

Music Performance / Rhythm Section / Ethnic Soul

### **References**

References available upon request.