

School of Interactive Computing  
Georgia Institute of Technology  
85 Fifth Street NW  
Atlanta, Georgia, USA 30332

Email: [caleb.southern@gatech.edu](mailto:caleb.southern@gatech.edu)  
Web: <http://calebsouthern.com>

## Research Statement

---

My research interests are in the area of Human-Computer Interaction, particularly Mobile and Ubiquitous Computing. Mobility is a fundamental element of the human condition. In an interdisciplinary project with Transportation Planning, I am investigating how personal informatics about one's travel patterns, including the context in which the information is presented, can increase awareness and influence behavior change. My previous work includes the design, implementation, and evaluation of BrailleTouch, a soft chorded keyboard for visually impaired users on mobile touchscreen devices.

## Education

---

**Georgia Institute of Technology**, Atlanta, GA (August 2010 – Present)

*Ph.D. Student, Human-Centered Computing*

- Advisor: Dr. Gregory D. Abowd
- Overall Grade Point Average: 4.00 / 4.0

**University of North Carolina**, Chapel Hill, NC (August 2009 – May 2010)

*Post-baccalaureate studies in Computer Science*

- Overall Grade Point Average: 4.00 / 4.0

**University of North Carolina**, Chapel Hill, NC (August 1988 – May 1990, August 1995 – May 1996)

*Bachelor of Science, Mathematical Sciences: Computer Science Option*

- Graduation with Departmental Honors
- Overall Grade Point Average: 3.41 / 4.0

## Academic Awards & Honors

---

- Finalist, Foley Scholar Program, August 2013
- National Science Foundation Graduate Research Fellowship Program (NSF GRFP), April 2012
- First Place, MobileHCI Design Competition, Stockholm, September 2011 [P.2]
- Honorable Mention, National Science Foundation Graduate Research Fellowship Program (NSF GRFP), April 2011
- Finalist, Georgia Tech Research and Innovation Conference (GTRIC) Innovation Contest (top 10 out of 93 from all graduate colleges), February 2011
  
- Departmental Honors, University of North Carolina Department of Computer Science, May 1996
- Aubrey Lee Brooks Scholarship, University of North Carolina, 1988-1990, 1995-1996
- Completed Sophomore Honors Program, University of North Carolina, May 1990
- Completed Freshman Honors Program, University of North Carolina, May 1989
- Fellow of the College of Arts and Sciences, University of North Carolina, August 1988

## Other Awards & Honors

---

- Gold Record, Recording Industry Association of America (RIAA), Record Producer. For sales of 500,000 units of Ben Folds Five, *Whatever and Ever Amen*, 1998.
- Citizen Award, *Independent Weekly*. For public policy advocacy that resolved a 30-year transportation controversy, 2002.

## Publications

---

- [P.4] **Southern, C.**, Clawson, J., Frey, B., Abowd, G., Romero, M., "An Evaluation of BrailleTouch: Mobile Touchscreen Text Entry for the Visually Impaired." Mobile HCI 2012. San Francisco, September 2012.
- [P.3] Frey, B., Rosier, K., **Southern, C.**, Romero, M., "From Texting App to Braille Literacy." Conference on Human Factors in Computing Systems, Extended Abstracts, ACM CHI 2012. Austin, May 2012.
- [P.2] Romero, M., Frey, B., **Southern, C.**, Abowd, G., "BrailleTouch: Designing a Mobile Eyes-Free Soft Keyboard." Mobile HCI 2011, Design Competition. Stockholm, August 2011.
- [P.1] Frey, B., **Southern, C.**, Romero, M., "BrailleTouch: Mobile Texting for the Visually Impaired." Proceedings of Human-Computer Interaction International, HCII. Orlando: July 2011.

## Teaching Experience

---

**Georgia Institute of Technology**, Atlanta, GA (Spring 2013)

*Teaching Assistant for CS 4605/7470 "Mobile and Ubiquitous Computing (with Dr. Thad Starner, Dr. Gregory D. Abowd, and Clint Zeagler)*

- Advised and evaluated 99 students, including six project teams over the full semester
- Graded 39 undergraduate final exams (short answer) and 17 graduate final exams (essay)
- Lectured and conducted class discussion on Surface Input Technologies

**Georgia Institute of Technology**, Atlanta, GA (Spring 2011)

*Teaching Assistant for CS 4001 "Computing, Society, and Professionalism" (with Dr. Irfan Essa)*

- Graded essays and provided individual feedback to each student
- Lectured and conducted class discussion on "Do Artifacts Have Politics?" (L. Winner)

## Students Advised

*Masters Students, Independent Studies*

- David Quigley (Spring 2012)
- Chris Stewart (Fall 2011)

## Professional Experience

---

**Georgia Institute of Technology**, Atlanta, GA (August 2010 – May 2012)

*Graduate Research Assistant (with Dr. Gregory D. Abowd)*

- Designed and implemented BrailleTouch soft keyboard on touchscreen smartphones and tablets
- Designed text entry evaluation methodology for visually impaired subjects
- Conducted five-week study with eleven blind participants over five sessions each
- Evaluated BrailleTouch text entry performance with quantitative methods [P.4]

**Bright Home Theater**, New York, NY (October 2007 – October 2008)

*Remote Control UX Designer*

- Consulted with clients to understand their individual user interface needs
- Designed and implemented custom user interfaces for each client's audio-video equipment
- Installed touchscreen user interface hardware, wireless and low voltage control systems

**Public Policy Advocate**, Durham, NC (2001 – 2006)

*Volunteer*

- Proposed solution to 35-year transportation controversy over proposed Eno Drive Road
- Organized and mobilized community groups behind my proposal
- Successfully changed state legislation to move \$200 million in transportation funding

**Music Producer**, New York, NY (1989 – 2001)

*Self-employed*

- Directed creative process and technical recording of musical artists in studio
- Delivered master recordings of music albums under time and budget constraints
- Clients included Sony Music and EMI/Capitol Records
- Earned Gold Record, for sales of 500,000 units of Ben Folds Five, *Whatever and Ever Amen*

**Service**

---

- Reviewer, 1 full paper, 12<sup>th</sup> International Conference on Mobile and Ubiquitous Multimedia. MUM13, Luleå, Sweden, December 2-5, 2013.
- Reviewer, 1 full paper, 26<sup>th</sup> ACM UIST Symposium. UIST 2013, St. Andrews, UK, October 8-11, 2013.
- Reviewer, 1 full paper, Tenth International Conference on Pervasive Computing. Pervasive 2012, Newcastle, UK, June 18-22, 2012.
- Reviewer, 2 works-in-progress. ACM SIGCHI Conference on Human Factors in Computing Systems. CHI 2012, Austin, Texas, May 5-10, 2012.
- Organizing Committee, "Frontiers in Accessibility for Pervasive Computing" workshop, Tenth International Conference on Pervasive Computing. Pervasive 2012, Newcastle, UK, June 18-22, 2012.

**Media Coverage**

---

- Cole, Arthur. "Blind View Point: Interview with Caleb Southern about Braille Touch." Georgia Radio Reading Service (GaRRS). 6/25/2011. <http://garrs.net>.
- Morgan, Fiona. "Downtown's Long Awaited Renaissance is Under Way." *Independent Weekly* (cover story). 8/18/2004. <http://indyweek.com>.
- Bridges, Virginia. "Streetlight Savior: Citizen Southern finds broken lights, monitors their repair." *The Herald-Sun*, Durham, NC (page A1). 8/7/2003. <http://heraldsun.com>.
- Geary, Bob. "Caleb Southern: From the NYC music scene to battling the state DOT over Eno Drive." *Independent Weekly*, Special Issue: Citizen Awards. 11/27/2002. <http://indyweek.com>.

**Community**

---

- Durham Planning Commission. Durham, NC (2005-2006)
- Board of Directors, Downtown Durham, Inc. Durham, NC (2004-2006)
- Co-chair, Partners Against Crime District 5. Durham, NC (2006)
- Durham Bicycle and Pedestrian Advisory Commission. Durham, NC (2005-2006)
- Design District Review Team. Durham, NC (2004-2005)