

# Larwan Berke, Ph.D. Candidate

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## Education

- 2015 → Present     **Ph.D. Candidate in Computing and Information Sciences**, Rochester Institute of Technology (RIT) – Rochester, NY with 3.96/4.0 cumulative GPA. Expected graduation date: May 2020
- 2011 → 2014     **B.S. in Mathematics**, Gallaudet University (GU) – Washington, DC with 3.228 cumulative GPA and 3.654/4.0 major GPA

## Honors, Scholarships, and Awards

### ★ Awards and Fellowships

- 2017     – **Graduate Research Fellow**, National Science Foundation (NSF) *Graduate Research Fellowship Program* recipient studying Human-Computer Interaction (HCI) and Accessibility (2017 → Present)
- 2017     – **Inducted**, The Honor Society of Phi Kappa Phi (ΦΚΦ) chapter at RIT
- 2017     – **Young Researcher Award**, 5th Heidelberg Laureate Forum (HLF) – Heidelberg, Germany
- 2014     – **Champion**, Google Student Games Capital City (Gallaudet University team member)
- 2011     – **Dean’s List**, Gallaudet University (2011 → 2013)

### 🏛️ Scholarships

- 2018     – **CHIME Mentoring/Travel Scholarship**, ACM CHI conference – Montréal, Canada
- 2016     – **Doctoral Consortium/Travel Scholarship**, ACM ASSETS conference – Reno, NV
- 2015     – **Ph.D. Merit Scholarship**, Rochester Institute of Technology (2015 → 2017)
- 2014     – **Code-A-Thon Scholarship**, Tapia Conference
- 2013     – **Travel Scholarship**, Grace Hopper Conference
- 2012     – **T.R. Johnson Scholarship**, Gallaudet University
- 2011     – **Edward Miner Gallaudet Scholarship**, Gallaudet University

## Publications

### 📖 Peer-Refereed Journal Articles

- [J.3] **Larwan Berke**, Matt Huenerfauth, and Kasmira Patel. “Design and Psychometric Evaluation of American Sign Language Translations of Usability Questionnaires”. In: *ACM Transactions on Accessible Computing (TACCESS)* (2018). Manuscript under review after minor revision.
- [J.2] Kevin Rathbun, **Larwan Berke**, Christopher Caulfield, Michael Stinson, and Matt Huenerfauth. “Eye Movements of Deaf and Hard of Hearing Viewers of Automatic Captions”. In: *Journal on Technology and Persons with Disabilities* 5 (2017), pp. 130–140. <http://hdl.handle.net/10211.3/190208>.
- [J.1] John McDonald, Rosalee Wolfe, Jerry Schnepf, Julie Hochgesang, Diana Gorman Jamrozik, Marie Stumbo, **Larwan Berke**, Melissa Bialek, and Farah Thomas. “An automated technique for real-time production of lifelike animations of American Sign Language”. In: *Universal Access in the Information Society (UAIS)* 15 (4 Nov. 2016), pp. 551–556. doi: 10.1007/s10209-015-0407-2.

### 📄 Peer-Refereed Conference Papers

- [C.5] Sedeeq Al-khazraji, **Larwan Berke**, Sushant Kafle, Peter Yeung, and Matt Huenerfauth. “Modeling the Speed and Timing of American Sign Language to Generate Realistic Animations”. In: *Proceedings of the 20th International ACM SIGACCESS Conference on Computers and Accessibility*. ASSETS '18. [ 🏆 **Best Paper Winner – top 1%**]. New York, NY, USA: Association for Computing Machinery (ACM), Oct. 2018. doi: 10.1145/3234695.3236356.
- [C.4] **Larwan Berke**, Sushant Kafle, and Matt Huenerfauth. “Methods for Evaluation of Imperfect Captioning Tools by Deaf or Hard-of-Hearing Users at Different Reading Literacy Levels”. In: *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. CHI '18. [ 🏆 **Best Paper Honorable Mention – top 5%**]. New York, NY, USA: Association for Computing Machinery (ACM), Apr. 2018, 91:1–91:12. doi: 10.1145/3173574.3173665.
- [C.3] **Larwan Berke**, Christopher Caulfield, and Matt Huenerfauth. “Deaf and Hard-of-Hearing Perspectives on Imperfect Automatic Speech Recognition for Captioning One-on-One Meetings”. In: *Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility*. ASSETS '17. New York, NY, USA: Association for Computing Machinery (ACM), Oct. 2017, pp. 155–164. doi: 10.1145/3132525.3132541.
- [C.2] Matt Huenerfauth, Kasmira Patel, and **Larwan Berke**. “Design and Psychometric Evaluation of an American Sign Language Translation of the System Usability Scale”. In: *Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility*. ASSETS '17. [ 🏆 **Best Paper Honorable Mention – top 5%**]. New York, NY, USA: Association for Computing Machinery (ACM), Oct. 2017, pp. 175–184. doi: 10.1145/3132525.3132540.
- [C.1] Rosalee Wolfe, John McDonald, **Larwan Berke**, and Marie Stumbo. “Expanding n-gram analytics in ELAN and a case study for sign synthesis”. In: *Ninth International Conference on Language Resources and Evaluation*. LREC 2014. Reykjavik, Iceland: European Language Resources Association (ELRA), May 2014. <http://www.lrec-conf.org/proceedings/lrec2014/summaries/6.html>.

## 📁 Other Publications

- [O.7] **Larwan Berke**. *Proposed Dissertation: “Automatic Speech Recognition as a Captioning Tool: Enabling Greater Accessibility for Users who are Deaf and Hard of Hearing”*. Rochester Institute of Technology (RIT): B. Thomas Golisano College of Computing & Information Sciences. **Advisor:** Dr. Matt Huenerfauth. **Committee:** Dr. Vicki Hanson, Dr. Kristen Shinohara, and Dr. Raja Kushalnagar (Gallaudet University).
- [O.6] Souad Baowidan, Natalie Ningshan Guo, Sarah Johnson, Robyn Moncrief, and **Larwan Berke**. *A New N-gram Analytics Tool in ELAN and its Application to Improve Automatic Fingerspelling Generation*. DePaul School Of Computing Research Symposium. May 2017. [https://scds.cdm.depaul.edu/wp-content/uploads/2017/05/SOCSRS\\_2017\\_paper\\_10.pdf](https://scds.cdm.depaul.edu/wp-content/uploads/2017/05/SOCSRS_2017_paper_10.pdf).
- [O.5] **Larwan Berke**. “Displaying Confidence from Imperfect Automatic Speech Recognition for Captioning”. In: *ACM SIGACCESS Accessibility and Computing* 117 (Jan. 2017). [ **Doctoral Consortium at ASSETS '16** ], pp. 14–18. doi: 10.1145/3051519.3051522.
- [O.4] John McDonald, Rosalee Wolfe, Jerry Schnepf, Julie Hochgesang, Diana Gorman Jamrozik, Marie Stumbo, and **Larwan Berke**. “Toward Lifelike Animations of ASL: Achieving Natural Motions from the Movement-Hold Model”. In: *International Workshops and Symposia on Sign Language Translation and Avatar Technology (SLTAT)*. Chicago, IL, USA, Oct. 2013. <http://sltat.cs.depaul.edu/slides/McDonald.pdf>.
- [O.3] Marie Stumbo, **Larwan Berke**, Melissa Bialek, and Farah Thomas. “Toward a Real-Time ASL Avatar Utilizing Linguistic Principles for Nonmanual Signals”. In: *International Workshops and Symposia on Sign Language Translation and Avatar Technology (SLTAT)*. Chicago, IL, USA, Oct. 2013. <http://sltat.cs.depaul.edu/slides/Stumbo.pdf>.
- [O.2] **Larwan Berke**. *Empowering ELAN with N-gram Analytics for Corpora*. Distributed Research Experiences for Undergraduates (DREU). Aug. 2013. [http://dreuarchive.cra.org/2013/Berke/images/DREU\\_Final\\_Report.pdf](http://dreuarchive.cra.org/2013/Berke/images/DREU_Final_Report.pdf).
- [O.1] **Larwan Berke**. *Larwan Berke’s DREU Experiences: ASL Research Project*. 2013. <https://parasol.tamu.edu/dreu2013/Berke/week1.html>.

## Dissemination and Outreach

### 📄 Posters

- [P10] **Larwan Berke**, Matt Seita, Abraham Glasser, Sushant Kafle, and Matt Huenerfauth. *Preferences and Requirements of Deaf and Hard-of-Hearing Users for Captions Generated through Automatic Speech Recognition*. AI@GCCIS: Golisano College Research & Innovation Showcase. Oct. 2018. [https://people.rit.edu/lwb2627/files/AI\\_GCCIS\\_2018\\_BerkeEtAl.pdf](https://people.rit.edu/lwb2627/files/AI_GCCIS_2018_BerkeEtAl.pdf).
- [P9] Sedeeq Al-khazraji, **Larwan Berke**, Sushant Kafle, Peter Yeung, and Matt Huenerfauth. *Using Data-Driven Approach for Modeling Timing Parameters of American Sign Language*. AI@GCCIS: Golisano College Research & Innovation Showcase. Oct. 2018. [https://people.rit.edu/lwb2627/files/AI\\_GCCIS\\_2018\\_Al-KhazrajiEtAl.pdf](https://people.rit.edu/lwb2627/files/AI_GCCIS_2018_Al-KhazrajiEtAl.pdf).
- [P8] Matt Seita, **Larwan Berke**, Sushant Kafle, Sedeeq Al-khazraji, and Matt Huenerfauth. *Automatic Captioning Technologies to Support Small-Group Communication between People who are Deaf and Hard-of-Hearing and their Hearing Colleagues*. AI@GCCIS: Golisano College Research & Innovation Showcase. Oct. 2018. [https://people.rit.edu/lwb2627/files/AI\\_GCCIS\\_2018\\_SeitaEtAl.pdf](https://people.rit.edu/lwb2627/files/AI_GCCIS_2018_SeitaEtAl.pdf).
- [P7] Matt Seita, **Larwan Berke**, Gillian Trommer, and Matt Huenerfauth. *Learning American Sign Language (ASL) Through Real-Time Practice*. AI@GCCIS: Golisano College Research & Innovation Showcase. Oct. 2018. [https://people.rit.edu/lwb2627/files/AI\\_GCCIS\\_2018\\_SeitaEtAl-ASL.pdf](https://people.rit.edu/lwb2627/files/AI_GCCIS_2018_SeitaEtAl-ASL.pdf).
- [P6] **Larwan Berke** and Matt Huenerfauth. *Displaying Confidence From Imperfect Automatic Speech Recognition For Captioning*. Effective Access Technologies Conference at RIT. [ 🏆 **Second Place for Best Poster Award**]. Apr. 2017. [https://people.rit.edu/lwb2627/files/RIT\\_EAT\\_2017-Poster-Berke.pdf](https://people.rit.edu/lwb2627/files/RIT_EAT_2017-Poster-Berke.pdf).
- [P5] **Larwan Berke**, Aiko Resendiz, Kasmira Patel, Anmol Kaur, and Matt Huenerfauth. *Creating a Training Dataset for an Automatic Educational Feedback System for American Sign Language Students*. Effective Access Technologies Conference at RIT. Apr. 2017. [https://people.rit.edu/lwb2627/files/RIT\\_AI\\_2017-Poster-BerkeEtAl.pdf](https://people.rit.edu/lwb2627/files/RIT_AI_2017-Poster-BerkeEtAl.pdf).
- [P4] **Larwan Berke**, Aiko Resendiz, Kasmira Patel, Anmol Kaur, and Matt Huenerfauth. *Creating a Training Dataset for an Automatic Educational Feedback System for American Sign Language Students*. Move 78 Retreat on Artificial Intelligence at RIT. Feb. 2017. [https://people.rit.edu/lwb2627/files/RIT\\_AI\\_2017-Poster-BerkeEtAl.pdf](https://people.rit.edu/lwb2627/files/RIT_AI_2017-Poster-BerkeEtAl.pdf).
- [P3] Sushant Kafle, Christopher Caulfield, **Larwan Berke**, and Matt Huenerfauth. *Word Importance Modeling to Evaluate Caption Quality for People who are Deaf or Hard of Hearing*. RIT Graduate Symposium and Showcase. Feb. 2017. [https://people.rit.edu/lwb2627/files/RIT\\_GradSym\\_2017-Poster-KafleEtAl.pdf](https://people.rit.edu/lwb2627/files/RIT_GradSym_2017-Poster-KafleEtAl.pdf).
- [P2] **Larwan Berke**. *Exploring Corpus Analysis for Coarticulation in ASL*. ACM Richard Tapia Celebration of Diversity in Computing. [ 🏆 **Second Place for “Tiki Suarez-Brown Undergraduate Poster Recognition”**]. Sept. 2014. [http://tapiaconference.org/assets/536861054f720a67440000b/2014\\_Tapia\\_Program\\_Book.pdf](http://tapiaconference.org/assets/536861054f720a67440000b/2014_Tapia_Program_Book.pdf).
- [P1] **Larwan Berke**. *Using Corpus Analysis to Improve Legibility of Generated ASL*. Grace Hopper Celebration of Women in Computing Conference (GHC). Oct. 2013. [https://ghc.anitab.org/wp-content/uploads/sites/2/2014/02/ABI\\_GHC-program\\_v11.pdf](https://ghc.anitab.org/wp-content/uploads/sites/2/2014/02/ABI_GHC-program_v11.pdf).

## Invited Talks

- [T.2] **Larwan Berke**. *How I Became a PhD Student: Larwan Berke’s Life*. Research Experiences for Undergraduates (REU) at Gallaudet University. June 2018.
- [T.1] **Larwan Berke**, Sushant Kafle, Christopher Caulfield, Matt Huenerfauth, and Michael Stinson. *Making the Best of Imperfect Automatic Speech Recognition for Captioning One-on-One Meetings*. NTID Scholarship Symposium at RIT. Jan. 2017. [http://www.ntid.rit.edu/sites/default/files/pd/Symposium\\_2017/LBerke\\_MHuenerfauth\\_1300\\_1140.pdf](http://www.ntid.rit.edu/sites/default/files/pd/Symposium_2017/LBerke_MHuenerfauth_1300_1140.pdf).

## Press and Blog Mentions

- [N.12] Deaf Camp at Camp Mark Seven. *CAMP MARK 7’s Deaf STEM Camp Instructors Barbara Spiecker and Larwan Berke get ready for a FUN WEEK!!! (Video & editing by Hunter Luther)*. Aug. 2018. <https://www.facebook.com/cm7deafcamp/videos/2104372492966712/>.

- [N.11] Research at RIT Magazine (Spring-Summer 2018). *User-Centered Design Making Computing Accessible: RIT Experts Focus on User-Centered Design to Make Computing Accessible*. Aug. 2018. <http://www.rit.edu/research/sites/rit.edu.research/files/research-magazines/RIT-Research-Magazine-Spring-Summer-2018.pdf>.
- [N.10] Heidelberg Laureate Forum (HLF). *Young researcher interviews at the 5th HLF: Larwan Berke*. May 2018. <https://www.youtube.com/watch?v=LX1INhYN8tY>.
- [N.9] Scott Bureau – RIT University News. *RIT Experts Focus on User-Centered Design to Make Computing Accessible*. Apr. 2018. <https://www.rit.edu/news/story.php?id=66426>.
- [N.8] Scott Bureau – RIT University News. *RIT researchers make big splash at international computing accessibility conference*. Nov. 2017. <https://www.rit.edu/news/story.php?id=65131>.
- [N.7] Constanza Rojas-Molina. *What's in a scientist's mind? the HLF Questionnaire – Part 2*. Nov. 2017. <https://scilogs.spektrum.de/hlf/whats-scientists-mind-hlf-questionnaire-part-2/>.
- [N.6] Markus Pössel. *A matter of interpretation: Sign Language at the Heidelberg Laureate Forum*. Sept. 2017. <https://scilogs.spektrum.de/hlf/matter-interpretation-sign-language-heidelberg-laureate-forum/>.
- [N.5] Luke Auburn – RIT University News. *National Science Foundation awards Graduate Research Fellowships to two RIT students*. Apr. 2017. <https://www.rit.edu/news/story.php?id=61391>.
- [N.4] Scott Bureau – RIT University News. *Researchers work to make technology more accessible to all*. Dec. 2016. <https://www.rit.edu/news/story.php?id=58765>.
- [N.3] Google Student Blog. *Google Games 2014: Snapshot of a Google Games Champion*. June 2014. <https://students.googleblog.com/2014/06/google-games-2014-snapshot-of-google.html>.
- [N.2] John Williams. *Leaders in Assistive Technology*. 2010. <http://www.atechnews.com/johntcyeh.html>.
- [N.1] Jonathan Blum – CNN. *Helping deaf callers connect: A communications startup takes aim at a multimillion-dollar market*. Sept. 2008. [https://money.cnn.com/2008/09/11/smallbusiness/helping\\_deaf\\_callers\\_connect.fsb/index.htm](https://money.cnn.com/2008/09/11/smallbusiness/helping_deaf_callers_connect.fsb/index.htm).

## Academic Experience

### 👤 Teaching

- Summer 2018 ➤ **STEM Teacher**, Camp Mark Seven (CM7) – Old Forge, NY
- Instructed a group of young DHH students with Barbara Spiecker and Dr. Christopher Kurz
  - The one-week program included activities such as experiments, camping/hiking, engineering challenges, and presentations in ASL
- Fall 2013 ➤ **Special Tutor for Quantitative Reasoning Approach (GSR 104)**. Tutorial & Instructional Programs, Gallaudet University – Washington, DC
- Mentored students in one-on-one sessions to help them grasp abstract mathematical concepts
  - Presented scientific and quantitative approaches for the student to understand the natural world
- Spring 2013 ➤ **Supplemental Instruction Leader for Trigonometry (MAT 126)**. Tutorial & Instructional Programs, Gallaudet University – Washington, DC
- Led group interactive learning activities that integrated study strategies with course content
  - Modeled outstanding student behavior and successful academic practices during group sessions
- Fall 2012 ➤ **Tutor for Physics and Calculus (PHY 151 and MAT 150)**. Tutorial & Instructional Programs, Gallaudet University – Washington, DC
- Utilized my strong ASL skills to visualize problems and improve students' grades
  - Increased students' confidence by working on weak concepts and applying real-world situations

### 🗨️ Peer Mentoring

- 2017 → Present ➤ **Matt Seita**, Ph.D. Student in Computing and Information Sciences (RIT)

## Academic Experience (continued)

- 2017 → Present ➤ **Peter Yeung**, MS Student in Human Computer Interaction (RIT)
- 2017 → Present ➤ **Abraham Glasser**, BS Student in Computer Science (RIT)
- 2016 → 2017 ➤ **Kasmira Patel**, MS in Human Computer Interaction (RIT)
- 2015 → 2017 ➤ **Christopher Caulfield**, BS in Information Technology (RIT)

## Service

### 🎓 Academic Service

- Fall 2018 ↪ **Reviewer**, ACM CHI Conference on Human Factors in Computing Systems (CHI'19) – Papers
- Fall 2018 ↪ **Co-chair**, Organizing Committee (Accessibility) for ACM ASSETS'18 – Galway, Ireland, UK
- Summer 2018 ↪ **Reviewer**, ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW'18) – Papers

### 👥 Community Outreach

- Summer 2018 ↪ **Panelist**, NSF *Research Experience for Undergraduates* discussion at RIT hosted by Dr. Cecilia Ovesdotter Alm
- Summer 2017 ↪ **Panelist**, NSF *Research Experience for Undergraduates* discussion at RIT hosted by Dr. Cecilia Ovesdotter Alm
- Fall 2015 ↪ **Member**, ASL Club – NTID
- Summer 2014 ↪ **Captain**, College Bowl hosted by the National Association of the Deaf (Gallaudet University team)

### 👍 Affiliations and Memberships

- 2017 ↪ **ACM's Special Interest Group for Computer-Human Interaction (SIGCHI)**
- 2015 ↪ **ACM's Special Interest Group on Accessible Computing (SIGACCESS)**
- 2015 ↪ **Center for Accessibility and Inclusion Research (CAIR@RIT)**
- 2015 ↪ **Linguistic and Assistive Technologies Laboratory (LATLab@RIT)**
- 2013 ↪ **Association for Computing Machinery (ACM)**
- 2013 ↪ **The Alliance for Access to Computing Careers (AccessComputing)**
- 2013 ↪ **The Alliance for Students with Disabilities in STEM (AccessSTEM)**

## Employment History

- 2017 → Present ➤ **National Science Foundation (NSF) Graduate Research Fellow**. Rochester Institute of Technology – Rochester, NY
  - NSF Grant No. #1746056, supervised by Dr. Matt Huenerfauth at the B. Thomas Golisano College of Computing & Information Sciences
  - Mentored several DHH Ph.D., graduate, and undergraduate students interested in CS or IT at the National Technical Institute for the Deaf (NTID) or RIT
- Summer 2016 ➤ **Graduate Assistant for NSF REU**. National Technical Institute for the Deaf – Rochester, NY
  - NSF Grant No. #1460894, *Research Experiences for Undergraduates* (REU) 10-week summer program: *Accessible Multimodal Interfaces*, supervised by Dr. Raja Kushalnagar
  - Mentored students as part of their research into Automatic Speech Recognition technologies
- 2016 → 2018 ➤ **American Sign Language Expert for STEM**. Center for Research and Training (CRT) at The Learning Center for the Deaf (TLC) – Framingham, MA
  - Created STEM materials in ASL for the *American Sign Language STEM Concept Learning Resource* (ASL-CLEAR) project
  - Provided feedback on the design and implementation of the website (<http://ASLClear.org>)



## Employment History (continued)

- **American Sign Language Expert for Standardized Math Tests.** Measured Progress – Dover, NH
  - Translated K-12 math test materials from English to ASL for the *Massachusetts Comprehensive Assessment System (MCAS)* exams
  - Worked with language experts from CRT and the MA dept. of Education to ensure quality
- 2016 → 2017 ➤ **American Sign Language Expert for Standardized Math Tests.** Tri-Lin Integrated Services – San Antonio, TX
  - Translated K-12 math test materials from English to ASL for the *Smarter Balanced Assessment Consortium (SBAC)* exams
  - Also acted as a reviewer, submitting feedback on the fluency and quality of videos remotely
- 2015 → 2017 ➤ **Graduate Research Assistant.** Rochester Institute of Technology – Rochester, NY
  - NSF Grant No. #1462280: *Immediate Feedback to Support Learning American Sign Language through Multisensory Recognition*, supervised by Dr. Matt Huenerfauth
  - Supervised annotators whom analyzed video files to mark ASL linguistic features for correlation with Kinect data
- 2015 ➤ **American Sign Language Expert for Standardized Math Tests.** Pearson – Austin, TX
  - Translated K-12 math test materials from English to ASL for the *Partnership for Assessment of Readiness for College and Careers (PARCC)* project
  - Provided feedback on the web-based UI for DHH individuals taking the *PARCC Assessment* test
- Summer 2013 ➤ **AccessComputing/DREU Research Internship.** College of Computing and Digital Media, DePaul University – Chicago, IL
  - Contributed to the American Sign Language digital interpreter project with feedback and testing of models for the 3D avatar
  - Extended the Java-based ELAN tool with search optimizations and statistical analysis of N-grams
- Spring 2013 ➤ **Director of Finances.** Student Body Government, Gallaudet University – Washington, DC
  - Worked with the SBG Student Congress to plan and execute the unit fee budget
  - Arranged payroll and expenses/revenue for SBG and student organizations
- 2006 → 2008 ➤ **Vice President of Engineering.** Viable, Inc. – Rockville, MD
  - Led a team of ~15 engineers to develop the revolutionary VPAD touchscreen hardware videophone
  - Managed a team of ~5 engineers to program the Viable Vision software videophone
  - Extended the call center server with SIP, FCC compliance, personalization, privacy, and administrative features
- 2005 → 2006 ➤ **Senior Software Engineer.** Viable, Inc. – Rockville, MD
  - Coded the H.323/H.263 Video Relay Service call center server in Perl with the Radvision H.323 stack in C
  - Worked with an Adobe Flash engineer to develop an API for the server to communicate with the VRS operators
- Summer 2005 ➤ **Software Engineer.** Viable Technologies, Inc. – Potomac, MD
  - Developed the transcription server in Perl, MySQL, and PHP communicating via a HTTP API for the operators
  - Programmed the Operator GUI in Java, interfacing with the Dragon voice recognition SDK

## Technical Skills

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Languages	Fluent in American Sign Language and written English
Code	Perl, C, C++, Java, MATLAB, Python, PHP, R, OpenGL/GLSL, SQL, sh, HTML, CSS and JavaScript
Developing	Deep understanding of open source programming and the community, utilizes source code management tools such as Git, SVN, Request Tracker, and GitHub
Servers	Full lifecycle development, maintenance, and scaling of Linux/Microsoft servers and software
Work	Outstanding work ethic with a desire to always improve, able to visualize the big picture and find solutions, experience managing a group, and ensuring that projects complete on time

### 🌟 Certifications

2015	<b>RCR/Ethics Certification</b> , Collaborative Institutional Training Initiative (CITI Program)
2014	<b>Level 2 Tutor</b> , College Reading & Learning Association (CRLA)
2009	<b>US 2009/0174759 A1</b> , United States Patent for Audio/video communications device
2009	<b>US D600,242 S</b> , United States Design Patent for Audio/video communications device