Sarah Marie Guthals, PhD

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PROFILE

- **11 years' experience managing and developing collaborative software projects in-person and remotely; emphasis on interactive learning:**
  - Principal Program Manager for Microsoft Developer Relations: Focused on highlighting Azure and Visual Studio Code features and services for developers through engaging contexts and authentic developer practices.
  - Engineering Manager for GitHub Editor Tools: the GitHub integrations to Visual Studio, Visual Studio Code, Unity, and Atom.
  - Lead software developer for GitHub's Under 13 solutions: in-browser learning experience that engages kids under 13 in coding.
  - Product manager and developer of LearnToMod (learntomod.com): in-browser Minecraft modding software developed for K-12 with over 30,000 current users.
  - Co-creator and product manager of CodeSpells (codespells.org): a 3D immersive video game with $164K in Kickstarter funding to teach coding principles to K-12.
- **11 years' experience teaching, leading curriculum development, designing learning experiences, and leading professional development courses:**
  - Author to 19 Microsoft Learn Modules across 6 Learning Paths with associated videos and live streams.[1]
  - Director of Curriculum and Instruction for ~40 ongoing after-school, workshop, and summer camp programs throughout San Diego.
  - Developer for Advanced Placement Computer Science Principles UCSD Pilot Curriculum, e-textbook[2], and Teacher Professional Development Resources for the NSF CS10K Project. Funded by NSF Broadening Participation in Computing.[3]
  - UCSD Lecturer in the Computer Science and Education Studies Departments.
- **7 years' experience with entrepreneurship:**
  - Co-founder and CTO of ThoughtSTEM, LLC: a 40-person educational software company committed to bringing STEM to K-12 formal and informal learning environments with over $1M in annual revenue at departure, specifically raising over $700K in grant and crowd-funding.
  - Founder and CEO of We Can, LLC: a small educational software consulting company, publishing seven books through Wiley publishing.[4]

EDUCATION

University of California, San Diego

Doctor of Philosophy in Computer Science (Computer Engineering)	Dec 2014

    Specialization in Computer Science Education
    Thesis: Designing Learning Experiences that Enculturate Novices

Masters of Science in Computer Science	Mar 2013
Bachelors of Science in Computer Science	Dec 2010

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[1] Learn with Dr G Stats: https://aks.ms/LearnWithDrG/analytics

[2] Textbook: https://sites.google.com/a/eng.ucsd.edu/expeditions-through-alice/home

[3] Project Website: http://csprinciples.org

[4] Author Profile: amazon.com/author/sarahguthals

UC San Diego 40 Under 40 Alumni: Mastermind (2018)	Apr 2018
Forbes 30 Under 30: Science (2016)	Jan 2016
Outstanding Graduate Student Leader (UCSD)	May 2013
Google Anita Borg Scholar (Google)	Apr 2011
AWIS Scholar (AWIS)	Apr 2011
Googley Award (Google)	Oct 2010
Yahoo! "!" Excellence Award (Yahoo!)	Oct 2009
Gordon Engineering Leadership Award – Fellow (UCSD)	Oct 2009

PROFESSIONAL EXPERIENCE

Microsoft   Feb 2019 - Present
Principal Program Manager in Developer Relations
- Authored 19 Microsoft Learn modules in partnership with NASA, Netflix, and Warner Brothers to authentically highlight data science, machine learning, and AI basics through culturally relevant narratives and examples.
- Paired Microsoft Learn modules with 30 live and pre-recorded episodes of the "Learn with Dr G" show to authentically explore the concepts and tech presented in modules.
- Designed and led the Student Zone at Build 2019-2021 which included technical talks on concepts for novice developers and featured internal and external special guests.
- Created the first set of workshops led by Microsoft's DevRel org for the world-wide Reactor business. Then, migrated the in-person offerings to 100% virtual in 2020.
- Collaborated with GitHub, Azure, DevDiv and Xbox to create unique content and experiences to highlight new features across events, videos, and learn materials.

GitHub   Oct 2017 – Feb 2019
Engineering Manager for Editor Tools
- GitHub integrations into editors: Visual Studio, Unity, VS Code, and Atom.
- Acted as Product Manager, People Manager, UXR to lead the products and team.
- Doubled my team and product set within 6 months of joining.
- Created space for senior engineers to lead their feature sets, providing code reviews and testing across each product.
- Maintained the opensource projects for the editor extensions alongside the lead devs.

GitHub   Apr 2016 – Sep 2017
Lead Software Engineer for Social Impact
- Lead Software Engineer for GitHub's KidHub, an online space for under 13-year-old children to build, share, collaborate, and contribute to digital artifacts.
- Ruby on Rails application connecting to a GitHub Enterprise instance hosted on AWS.
- Collaborations with leading organizations, companies, and schools interested in improving online education and safety for children around the world.

We Can, LLC   Jan 2017 – Present
Founder and CEO
- Collaborate with San Diego Central Library, Sally Ride Science Foundation, UC San Diego, Georgia Tech University, and other local organizations to attract and engage more students and to improve the learning experiences for STEM K-12 students.
- Authored 7 books under Wiley Publishing around coding topics for kids and adults.

UCSD Extension via Education Studies   Jun 2017 – Sep 2017
Online Professional Development Course Instructor
- Developing the course and curriculum for a 4-course Computer Science Supplemental Authorization for Computer Science K-12 Instructors.
- Upper division standing, online course.

UCSD Educational Studies and Computer Science   Jan 2017 – Dec 2017
Lecturer
- Teaching students how to use the edX, Coursera, Canvas, Moodle, and Blackboard platforms and using the platforms to teach the course.
- Teaching students how to teach computer science in informal learning space.
- Upper division course, flipped classroom format.
- Evaluations: 100% recommend Instructor, 100% recommend Course.

ThoughtSTEM   Oct 2012 – Apr 2016
Co-Founder and CTO/CPO
- Secured over $700,000 in funding for ThoughtSTEM via three NSF grants, one NASA Consortium grant, and two Kickstarter rounds.
- Product Manager for 40 curriculum and teacher professional development employees specifically for ThoughtSTEM's After School Programs and Camps.
- Primary point of contact for expanding and securing collaborations with over 30 local K-12 schools, home school programs, the Promises2Kids foster youth organization, Reuben H. Fleet Science Center, and the San Diego public libraries.
- Engineering Manager, Product Manager and Senior Software Engineer on ThoughtSTEM software. Remote and co-located teams on customer-facing products.

UCSD Computer Science   Nov 2014 – Jul 2015
Post-Doctoral Fellow
- Lead collaboration with UCSD and parties interested in scaling the CS10K Project previously awarded to Dr. Beth Simon.
- Support for Cleveland State to adopt the materials to reach additional teachers.
- Collaboration with UCSD CS-CAVE led by the San Diego Supercomputer Center.

UCSD Computer Science Department   Jan 2010 – Dec 2014
Graduate Student (MS and PhD)
- Developed the first prototype of CodeSpells, an interactive video game designed to teach computer science (Java) to children.
- President of Graduate Women in Computing at UC San Diego.
- Thesis: Designing Learning Experiences that Enculturate Novices
- Graduate Advisors: Dr. William Griswold and Dr. Beth Simon

Microsoft, Aliso Viejo, CA   Jun 2011 – Sep 2011
Software Developer Intern with Parallel Data Warehouse Team

ViaSat, Carlsbad, CA   Jun 2010 – Sep 2010
Lead Software Developer Intern for Enterprise Reliability System

NASA-JPL: Collaborative Research Experience   Sep 2009 – Jun 2010
Undergraduate Research Assistant at UCSD

Microsoft, Bellevue, WA   Jun 2009 – Sep 2009
Software Developer Intern with Dynamics Online Division

GRANTS AND FUNDING

NSF ITEST Grant (NSF-IIP- 1543040)   2015 - 2016
Senior Personnel – Sub-Awardee

NSF SBIR Phase I Grant (NSF-IIP-1520569)   2015
Senior Personnel – CTO

NASA Space Grant Consortium (NNH14ZHA003C)   2014 - 2016
PI Sub-Awardee

NSF I-Corps Grant (NSF-IIP-1359492)   2013-2014
Acting PI

MyStartupXX Fellowship   2013
MyStartupXX Fellow

Latino2 Pitch Competition   2013
1st Place Winner

NSF Graduate Research Fellowship   2011-2014
Graduate Research Fellow

BOOK PUBLICATIONS

[1] <u>Sarah Guthals</u> and Phil Haack. GitHub for Dummies. John Wiley and Sons, Inc. 2019.
[2] Camille McCue and <u>Sarah Guthals</u>. Helping Kids with Coding For Dummies. John Wiley and Sons, Inc. 2018.
[3] <u>Sarah Guthals.</u> Write Code Like a Pro. John Wiley and Sons, Inc, 2017.
[4] <u>Sarah Guthals</u>. Building 3D Digital Games. John Wiley and Sons, Inc, 2017.
[5] <u>Sarah Guthals</u>. Little Book of Griefs: Minecraft Education Edition: Tips for Kids. 2017.
[6] <u>Sarah Guthals</u>. Building a Mobile App. John Wiley and Sons, Inc, 2017.
[7] <u>Sarah Guthals</u>. Building a Minecraft City. John Wiley and Sons, Inc, 2016.
[8] <u>Sarah Guthals</u>. Modding Minecraft. John Wiley and Sons, Inc, 2015.
[9] <u>Sarah Guthals</u>. Minecraft Modding For Kids For Dummies. John Wiley and Sons, Inc, 2015.

RELEVANT PUBLICATIONS

[1] <u>Sarah Esper</u>, et al. 2014. CodeSpells: Bridging Educational Language Features with Industry-Standard Languages. Koli Calling '14.
[2] <u>Sarah Esper</u>, et al. 2014. A discussion on adopting peer instruction in a course focused on risk management. CHI'14. Learning Innovations at Scale Workshop.
[3] <u>Sarah Esper</u>. 2014. A discussion on adopting peer instruction in a course focused on risk management. J. Comput. Sci. Coll. 29, 4 (April 2014), 175-182.
[4] <u>Sarah Esper</u>, et al. 2014. Codespells: How to design quests to teach java concepts. J. Comput. Sci. Coll. 29, 4 (April 2014), 114-122. References

DR. WILLIAM G. GRISWOLD, PHD ADVISOR
- Professor in Computer Science Department at UCSD, wgg@cs.ucsd.edu

DR. BETH SIMON, PHD CO-ADVISOR
- Professor in Education Studies Department at UCSD, bsimon@cs.ucsd.edu