

## **Rustin James Reed, PhD, CIH, CSP**

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### **CANDIDATE SUMMARY**

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- Over six years of experience in industrial hygiene, safety, education, research and project management.
- Successfully managed industrial hygiene-related personnel, equipment, budgets and activities for a \$1.4 million federally-funded, research project.
- Advanced training in occupational health and safety, with experience in various industries.
- Professional communicator, with experience crafting many successful grant proposals and manuscripts.
- Over 700 hours delivering in-person and live online instruction, facilitation and training.
- Advisor and mentor to over 20 students completing thesis and capstone projects, as well as seeking internships and employment.

### **CURRENT POSITION & RECENT APPOINTMENTS**

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Research Assistant Professor, University of Arizona, 2019-present

Lead Instructor, Bowen Learning Network, 2018-present

Assistant Professor, Embry-Riddle Aeronautical University, 2017-2019

Chair, American Industrial Hygiene Association's Mining Working Group, 2017-2019

Secretary, American Industrial Hygiene Association's Arizona Local Section, 2015-2016, 2018-2019

### **EDUCATION**

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Ph.D., *Environmental Health Sciences*, University of Arizona, 2014-2017

MPH, *Environmental and Occupational Health*, University of Arizona, 2010-2013

BS, *Public Health: Health Sciences*, Brigham Young University, 2005-2010

### **CERTIFICATIONS**

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Certified Industrial Hygienist (CIH) – 11378

Certified Safety Professional (CSP) – 34673

Authorized OSHA Trainer for General Industry – 40-0079040

### **PROFESSIONAL ORGANIZATIONS**

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American Conference of Governmental Industrial Hygienists (ACGIH)

American Industrial Hygiene Association (AIHA)

American Society of Safety Professionals (ASSP)

### **COURSES TAUGHT**

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Graduate Level: Environmental Monitoring Methods, Industrial Hygiene and Environmental Protection, Occupational Safety, Research Methods, Emergency Preparedness

Undergraduate Level: Human Factors and Ergonomics (I & II), Human Reliability and Safety Analysis, Analysis of Observational Data, Introduction to Industrial Hygiene

Professional: CIH Online Review, OSHA 10- and 30-Hour, Respirable Crystalline Silica Competent Person

## **PROFESSIONAL EXPERIENCE**

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- 2019-present **Research Assistant Professor (Non-Tenure Track), University of Arizona**  
Responsibilities include management of a \$1.78M grant funded by NIOSH, as well as coordination of personnel and projects at the Western Mining Safety and Health Training Resource Center.
- 2018-present **Lead Instructor, Bowen Learning Network, Inc.**  
Responsibilities include live instruction of CIH Online Review course, development of CIH practice questions and webinars, assisting with modifications to current curricula, and assisting professional students with questions.
- 2017-2019 **Assistant Professor (Tenure-Track), Embry-Riddle Aeronautical University**  
Responsibilities included teaching graduate and undergraduate courses in the Safety Sciences Department, mentoring and advising graduate and undergraduate students, overseeing research and capstone projects, and advising the ASSP Student Section.
- Taught the following courses: MSF 580 Industrial Hygiene and Environmental Protection, MSF 603 Occupational Safety, MSF 612 Research Methods, MSF 686 Emergency Preparedness, SF 325 Human Factors and Ergonomics I\*, SF 415 Human Reliability and Safety Analysis, SF 420 Analysis of Observational Data, SF 425 Human Factors and Ergonomics II\*
- \*The curricula for these courses were provided, all others were fully developed by me.
- Internal Service: Served as an Institutional Review Board Committee Member (2018-2019), Faculty Senate Research and Grants Committee Member, and the ASSP Student Section Faculty Advisor. Provided industrial hygiene services to the College of Engineering for the Rapid Prototyping Lab. As the ASSP Faculty Advisor, organized and transportation of students to events, including the Arizona Health and Safety Summit (2017-2019), ASSE Student Leadership Conference (2017), ASSP Region II Student Leadership Conference (2019), and ADOSH Safety Summit hosted by ERAU (2018). Organized and oversaw over a dozen tours to local and regional industries. Served on three search committees for tenure-track faculty positions.
- External Service: Collaborated with students to assist local organizations with their industrial hygiene needs, including noise dosimetry of motor police officers with the City of Prescott; and noise dosimetry and ventilation evaluation at the Yavapai Humane Society.
- 2018 **Adjunct Professor, Gateway Community College**  
Responsibilities included full development of the OSH102 Introduction to Industrial Hygiene course curriculum, and administration of course curriculum and grades on Canvas.
- 2013-present **Owner and Lead Industrial Hygienist, RĪS Industrial Solutions**  
Responsibilities include development of client relationships, proposals, statements of work, and project budgets; conducting industrial hygiene assessments and safety audits; interpreting results; developing client reports and invoices. Clientele includes Equinox Gold, Custos Fratrīs, L3C; ATL International, Inc.; Insure Compliance, LLC; and industries include mining, construction, reclamation and recycling.

- 2012-2016 ***Project Manager, University of Arizona***  
Responsibilities included management of industrial hygiene research projects, activities, equipment and personnel. Successfully managed industrial hygiene-related aspects (~50%) of and prepared progress and final reports for a \$1.4 million federally-funded (NIOSH), interdisciplinary research project. Identified and secured mining health and safety research funding. Developed local and regional industry partnerships. Developed and delivered MSHA 40-hour and safety-focused leadership training (U.S., Chile). Learned and utilized data science and analytics techniques (business analytics, autoregressive techniques, machine learning and neural networks). Crafted the majority of multiple peer-reviewed industrial hygiene scholarly articles and one NIOSH R01, two internal, and three NIOSH ERC grant proposals.
- 2016 ***IPA Contractor, National Institute for Occupational Safety and Health***  
Responsibilities included assisting in the validation and beta testing of a field-based, direct read crystalline silica monitor all copper mine sampling, Represent NIOSH in development of industry partnerships
- 2016 ***Adjunct Professor, Embry-Riddle Aeronautical University***  
Responsibilities included development of curricula for and administration of MSF 580 Industrial Hygiene and Environmental Protection and MSF 603 Occupational Safety. Designed curricula and instructed over 30 graduate students in applied courses. Administered course via Canvas, including online lectures. Developed partnerships with campus faculty, staff, and local industry for student exposure assessments and exercises.
- 2015, 2017 ***Online Adjunct Instructor, University of Arizona***  
Responsibilities included co-instruction of CPH 502 Environmental Monitoring Methods and CPH 575 Environmental and Occupational Health (online). Designed and delivered industrial hygiene curriculum, coursework and grades via D2L and Blackboard. Developed partnerships with campus staff for student exposure assessments and exercises (campus carpentry and grounds crews).
- 2015 ***Graduate Teaching Assistant, University of Arizona***  
Responsibilities included development and delivery of lecture and lab materials for CPH 510 Physical Exposures. Provided students with content review and homework assistance.
- 2012 ***Industrial Hygiene Intern, Freeport-McMoRan Copper and Gold, Inc.***  
Responsibilities included industrial hygiene sampling for particulate, noise, chemical, and heat exposures. Analyzed sampling data, generated reports and provided control recommendations. Coordinated site quantitative respirator fit-testing program, fit-tested hundreds of employees. Conducted safety audits and ergonomic inspections.
- 2011 ***Mobile Health Clinic Intern, University of Arizona***  
Responsibilities included conducting patient physicals, medical assessments, intake and clinical labs. Evaluated program performance by developing and implementing survey tool.
- 2007-2010 ***Undergraduate Research Assistant, Brigham Young University***  
Responsibilities included execution of DNA sequencing protocols and analysis of genetic data. Managed lab inventory and trained and supervised new laboratory workers. Conducted sampling for field study in southern Mexico.

## **VOLUNTEER EXPERIENCE**

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- 2017-2019 *Chair*, American Industrial Hygiene Association Mining Working Group  
Responsibilities include direction of vision for and mission of the group. Lead meetings, develop agendas, coordinate conference calls. Previously served as Vice-Chair (2015-2017) and Secretary (2014-2015). Petitioned for and led formation of the group.
- 2018-2019 *Secretary*, American Industrial Hygiene Association Arizona Local Section  
Responsibilities include communication of news and upcoming events to section. Participate in section officer and strategic planning meetings. Record and distribute meeting minutes. Previously served as Secretary (2015-2016) and Secretary-Elect (2014-2015, 2017-2018).
- 2012-2013 *President*, American Society of Safety Engineers University of Arizona Student Section  
Responsibilities included collaboration with local professionals to form student section. Led and promoted section meetings and events.
- 2014-2015 *Membership Officer*, American Society of Safety Engineers Mining Practice Specialty  
Responsibilities included participation at strategic planning meetings. Leveraged professional network and activities to promote specialty membership.

## **JOURNAL ARTICLES**

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1. **Reed R**, Burgess J, Lutz E. Pilot Study Comparing Diesel and GDiesel® Exhaust Exposures in an Underground Mining Laboratory. (In preparation)
2. **Reed R**, Savit M, Lutz E. Comparing Relationships Among Mining Regulatory Actions and Injury Outcomes Using Econometric Techniques. (In preparation)
3. Cauda E, Chubb L, **Reed R**, Stepp R. Evaluating the use of a field-based silica monitoring approach with dust from copper mines. *Journal of Occupational and Environmental Hygiene*. 2018; Jul 9:1-28.
4. **Reed R**, Lutz E. Review of Occupational Health and Safety Interventions and Research Tailored to Vulnerable Agriculture, Forestry, and Fishing Workers. *International Journal of Public Health Research*. 2017; 5(2):20-30.
5. Lutz E, **Reed R**, Lee V, Burgess J. Comparison of Diesel and Biodiesel Exhaust Exposures in an Underground Mine. *Journal of Occupational and Environmental Hygiene*. Feb 2017; 14(7).
6. Mehus A, **Reed R**, Lee V, Littau S, Chengcheng H, Lutz E, Burgess J. Comparison of Acute Health Effects from Use of Diesel and Biodiesel Fuels. *Journal of Occupational and Environmental Medicine*. 2015; 57(7):705-712.
7. Lutz E, **Reed R**, Turner D, Littau S, Lee V, Hu C. Effectiveness Evaluation of Existing Noise Controls in a Deep Shaft Underground Mine. *Journal of Occupational and Environmental Hygiene*. 2015; 12(5):287-293.
8. Lutz E, **Reed R**, Lee V, Burgess J. Occupational Exposures to Emissions from Combustion of Diesel and Alternative Fuels in Underground Mining – A Simulated Pilot Study. *Journal of Occupational and Environmental Hygiene*. 2015; 12(3):D18-D25.

9. Lutz E, **Reed R**, Turner D, Littau S. Occupational Heat Strain in a Hot Underground Metal Mine. *Journal of Occupational and Environmental Medicine*. 2014; 56(4):388-396.
10. Rogers D, Leite R, **Reed R**. Molecular phylogenetics of an endangered species: the Tamaulipan woodrat (*Neotoma angustapalata*). *Conservation Genetics*. 2011; 12(4):1035-1048.

## **CONFERENCE & TECHNICAL PRESENTATIONS**

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1. **Reed R**. Some Like it Hot – Estimation of Core Temperature in Underground Mining Using External Physiology and Artificial Neural Networks. American Industrial Hygiene Conference and Exposition, Minneapolis, MN. (2019).
2. **Reed R**. Data, Data Everywhere, but Not a Drop to Drink: How to Prepare and Use Health and Safety Data for Actionable Insights. American Industrial Hygiene Conference and Exposition, Minneapolis, MN. (2019).
3. **Reed R**, Aponmade O. Real-Time Measurements of Mental Fatigue. International Occupational Hygiene Association International Scientific Conference, Washington, DC. (2018)
4. **Reed R**. Mining MSHA’s Diesel Particulate Matter Sample Data for Golden Insights. American Industrial Hygiene Conference and Exposition, Seattle, WA. (2017)
5. **Reed R**. High-Risk Exposure Groups to DPM with MSHA Sampling Data. Society of Mining, Metallurgy, and Exploration, Denver, CO. (2017)
6. **Reed R**. Relationships among MSHA Regulatory Actions and Injuries. Society of Mining, Metallurgy, and Exploration, Denver, CO. (2017).
7. **Reed R**, Dessureault S. Using Big Data Approaches on Large Unstructured and Structured, Highly Varying Mine Safety Data to Gain Insights. Society of Mining, Metallurgy, and Exploration, Phoenix, AZ. (2016)
8. **Reed R**. Data Science’s Place at the Mine Safety and Health Table. Society of Mining, Metallurgy, and Exploration, Phoenix, AZ. (2016)
9. **Reed R**. Development of a Real-Time Predictive and Personal Heat Strain Monitor. Society of Mining, Metallurgy, and Exploration, Phoenix, AZ. (2016)
10. **Reed R**. Some Like it Hot: Heat Strain Management in Mining. Society of Mining, Metallurgy, and Exploration, Phoenix, AZ. (2016)
11. **Reed R**. Diesel Exhaust, Data Science, and Safety Leadership at the UofA Mining Safety and Health Program. American Industrial Hygiene Association – Arizona Section PDC, Phoenix, AZ. (2015)
12. **Reed R**, Savit M, Lutz E. Measuring Broad Relationships across Mining Citation and Injury Data from 1983-2012. American Industrial Hygiene Conference and Exposition, Salt Lake City, UT. (2015)

13. **Reed R**, Quiroz O. Piloting Infrared Technologies for Measuring Body Temperature in High School Football Players. American Industrial Hygiene Conference and Exposition, Salt Lake City, UT. (2015)
14. **Reed R**, Lutz E. Broad Associations between MSHA Regulatory Compliance Measures and Injury Outcomes from 1983-2012. Society of Mining, Metallurgy, and Exploration, Denver, CO. (2015)
15. **Reed R**, Lutz E, Turner D, Littau S. Effectiveness Evaluation of Noise Controls in Deep Shaft Mining. International Society of Exposure Science, Cincinnati, OH. (2014)
16. Lutz E, **Reed R**. Pilot-Scale Application of Using Traditional and In-Ear Noise Monitoring in Active Shaft Mining to Evaluate Noise Controls. Society of Mining, Metallurgy, and Exploration, Salt Lake City, UT. (2014)

## **GRANTS AND AWARDS**

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1. Alternative Fuel Use to Reduce Diesel Emissions Exposure and Toxicity in Mining  
Funding agency: NIOSH  
Grant number: R01OH011410-02  
Total amount of funding: \$1,758,603  
Role: Project Manager (45-50% FTE)  
Funding duration: 2019-present
2. Western Mining Safety and Health Training Resource Center: An Integrated Approach  
Funding agency: NIOSH  
Grant number: U60OH010014  
Total amount of funding: \$486,000  
Role: Project Coordinator (45-50% FTE)  
Funding duration: 2019-present
3. Assessment of the Predicted Heat Strain Model Physiologic Measures of Heat Stress in Underground Mining  
Funding agency: ALPHA Foundation  
Total amount of funding: \$227,532  
Role: Research Assistant (10% FTE)  
Funding duration: 2019
4. Intergovernmental Personnel Agreement  
Funding agency: NIOSH  
Total amount of funding: \$11,300  
Role: Project Manager (18% FTE)  
Funding duration: 2016
5. Western Mining Safety and Health Training Resource Center: Translating Training to Competency  
Funding agency: NIOSH  
Grant number: U60OH010014  
Total funding amount: \$499,452.  
Role: Project Manager (82-100% FTE)  
Funding duration: 2015-2016

6. Predicting Occupational Heat Strain Risk in Real-Time Utilizing Continuous Environmental and Personal Measures  
Funding agency: University of Arizona  
Total funding amount: \$2,000.  
Role: Principal Investigator  
Funding duration: 2014-2015
7. Effectiveness Evaluation of Personal Cooling Methods. Rocky Mountain Center for Occupational and Environmental Health  
Funding Agency: NIOSH ERC  
Total funding amount: \$8,500.  
Role: Project Manager  
Funding duration: 2014-2015
8. Comparison of Diesel and Biodiesel Emissions and Health Effects in Underground Mining.  
Funding agency: NIOSH  
Grant number: R01OH009878  
Total funding amount: \$1,416,924.  
Role: Project Manager (100% FTE)  
Funding duration: 2012-2016
9. Phylogenetic Relationships Among Samples of the Dusky Shrew, *Sorex monticolus*, Emphasizing Utah Localities  
Funding agency: Brigham Young University  
Total funding amount: \$2,000.  
Role: Research Assistant  
Funding duration: 2008

## **RESEARCH & CO-AUTHORED POSTERS**

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1. Eslinger A, **Reed R**. 3D Printing Emissions: An Exposure Assessment of a Multiple Printer Student Laboratory. International Occupational Hygiene Association International Scientific Conference, Washington, DC. (Sept 2018)
2. Alhassan E, **Reed R**. Most Common Reasons for Airline Delays. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
3. Aponmade O, **Reed R**. Predicting Real-Time Fatigue Using External Physiology and Artificial Neural Networks. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
4. Cassidy A, **Reed R**. Mitigating Killing Factors in Aviation. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
5. Choimpog B, **Reed R**. Risk- and Performance-Based Oversight. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
6. Eslinger A, **Reed R**. 3D Printing Hazards: A Review of Emission and Exposure. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)

7. Fargas J, **Reed R**. The Structure of the Fatigue Risk Management System. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
8. Houston S, **Reed R**. The Use of Carbon Nanotubes for Detection of Damage within Composite Materials Installed on Ground and Air Transportation. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
9. Puangseree N, **Reed R**. Wake Turbulence. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
10. Robinson S, **Reed R**. Wildland Firefighter Tracking Using Satellite (GPS) Tracking Systems. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2018)
11. Aponmade O, **Reed R**. Predicting Real-Time Core Temperature. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2017)
12. Chen P, **Reed R**. Effect of Language on Flight Performance. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2017)
13. Saldana M, **Reed R**. So, you want to be a Jedi? American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2017)
14. Stokesberry G, **Reed R**. Earplug Insertion Training. American Society of Safety Engineers Arizona Health and Safety Summit, Tempe AZ. (2017)
15. **Reed R**, Quiroz O. Piloting Infrared Technologies for Measuring Body Temperature in High School Football Players. University of Arizona Global Health Forum, Tucson, AZ; University of Arizona Public Health Poster Forum, Tucson, AZ. (2015)
16. **Reed R**, Lee V, Burgess J, Lutz E. Occupational Exposures to Diesel and Alternative Fuel Emissions in an Underground Mine – A Simulated Pilot Study. University of Arizona Student Showcase, Tucson, AZ. (2015)
17. Jacobs M, **Reed R**. Effectiveness of Earplug Insertion Training at Reducing Noise Attenuation. University of Arizona Public Health Poster Forum, Tucson, AZ. (2015)
18. **Reed R**, Turner D, Littau S, Lutz E. Effectiveness Evaluation of Noise Control Interventions in Deep Shaft Mining. American Industrial Hygiene Conference and Exposition, San Antonio, TX. (2014)
19. **Reed R**, Wagoner R, Lutz E, Burgess J. Comparison of Airborne Exposures from Diesel and Biodiesel Emissions. American Industrial Hygiene Conference and Exposition, San Antonio, TX (2014); Society of Toxicology Annual Meeting, Phoenix AZ (2013); University of Arizona Environmental Grad Blitz, Tucson, AZ. (2013)
20. **Reed R**, Turner D, Littau S, Lutz E. Occupational Heat Strain in a Hot Underground Mine. American Industrial Hygiene Conference and Exposition, San Antonio, TX (2014); University of Arizona Frontiers in Biomedical Research, Tucson, AZ (2013); University of Arizona Public Health Poster Forum, Tucson, AZ. (2013)



21. **Reed R**, Hadley S, Gaarder S. Measuring Relationships: Patient Satisfaction and Return Rates to Postpartum Visits at a Mobile Health Program. Society of Teachers of Family Medicine, Seattle, WA. (2012)
22. **Reed R**, Bailey M, Rickart E, Heaney L, Rogers D. Phylogenetic Relationships Among Samples of the Dusky Shrew, *Sorex monticolus*, Emphasizing Utah Localities. Evolution Conference, Moscow, ID. (2009)

## **CONFERENCES ATTENDED**

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1. American Industrial Hygiene Conference and Expo, Minneapolis, MN. (2019).
2. American Society of Safety Professionals Region II Student Leadership Conference, Las Vegas, NV. (2019)
3. Arizona Health and Safety Summit, Tempe, AZ. (2019)
4. National Safety Council Southwest Congress, Phoenix, AZ. (2018)
5. International Occupational Hygiene Association International Scientific Conference, Washington, DC. (2018)
6. American Industrial Hygiene Conference and Expo, Philadelphia, PA. (2018)
7. Arizona Health and Safety Summit, Tempe, AZ. (2018)
8. American Society of Safety Engineers Future Safety Leaders Conference, Chicago, IL. (2017)
9. American Industrial Hygiene Conference and Expo, Seattle, WA. (2017)
10. Arizona Health and Safety Summit, Tempe, AZ. (2017)
11. Society of Mining, Metallurgy and Exploration, Denver, CO. (2017)
12. Society of Mining, Metallurgy and Exploration, Phoenix, AZ. (2016)
13. Western Regional Mine Safety and Health Conference, Reno, NV. (2015)
14. American Industrial Hygiene Conference and Expo, Salt Lake City, UT. (2015)
15. Society of Mining, Metallurgy and Exploration, Denver, CO. (2015)
16. Western Regional Mine Safety and Health Conference, Reno, NV. (2014)

17. International Society of Exposure Science, Cincinnati, OH. (2014)
18. Safety, Orlando, FL. (2014)
19. American Industrial Hygiene Conference and Expo, San Antonio, TX. (2014)
20. Society of Toxicology Annual Meeting, Phoenix, AZ. (2014)
21. Society of Mining, Metallurgy and Exploration, Salt Lake City, UT. (2014)
22. American Industrial Hygiene Conference and Expo, Montreal, Canada. (2013)
23. Society of Teachers of Family Medicine, Seattle, WA. (2012)
24. Evolution Conference, Moscow, ID. (2009)

## **TECHNICAL SKILLS**

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### Computer and Software Skills

- Professional Proficiency: Microsoft Excel, Microsoft Word, Microsoft PowerPoint, Microsoft Outlook
- Working Proficiency: Microsoft Access, Microsoft Teams, Microsoft SharePoint, Microsoft OneNote, Tableau Desktop, Tableau Prep, RapidMiner, MATLAB, Slack
- Basic Proficiency: STATA, R, Python

### Languages

- English (native)
- Portuguese (advanced)
- Spanish (conversational)