# AMY J. LEWIS

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## EDUCATION

**California Polytechnic State University – San Luis Obispo, CA** *Expected Grad: June 2019*
Master of Science: Computer Science, *current GPA: 4.0*
Bachelor of Science: Software Engineering, Mathematics Minor *GPA: 3.5*
*President's Honor List for 2016-17, Dean's Honor List (seven times),*
*Scholar Athlete (Club Water Polo and Water Ski teams),*
*Member of Women in Software and Hardware (WISH)*

## WORK / VOLUNTEER EXPERIENCE

**Vicarious Visions (an Activision | Blizzard, Inc. studio)** – Albany, NY *Sept. 2018 - Dec. 2018*
*Programming Intern*
- Game development for "Crash Team Racer" in an Agile/Scrum work environment
- Implemented new types of game modes, created new menus and UI features, found and fixed bugs in the code base

**SpaceX** – Hawthorne, CA *June 2018 – Sept. 2018*
*Flight Software Intern*
- C++ development for Dragon 2 Space Shuttle life support systems
- WebGL/JavaScript development for Dragon 2 Crew Displays
- Worked with the SpaceX Commercial astronauts to determine necessary features for best controlling the space craft
- Learned to work in a high-pressure environment

**International Computer Engineering Experience (ICEX)** – San Luis Obispo, CA *March 2017 – June 2018*
*Research Assistant*
- Travelled to Sliema, Malta in June, 2017 and collected sonar and video data of shipwrecks in the Mediterranean using an autonomous underwater vehicle used to construct 3D visualization of the wrecks
- Created visually pleasing underwater environments with realistic lighting and particle systems for the 3D models
- Used PRM algorithms to create paths for the virtual camera to follow based on cinematographic principles
- Made a significant find of a WWII Allied torpedo bomber – the "Fairey Swordfish"

**BAE Systems, Inc.** – San Diego, CA *June 2016 – Sept. 2016*
*Technical Intern III*
- C++ development working mostly with User Interface Development and Preferences, including creating my own enhancements and working with legacy code for the GXP project
- Led my own project meetings and worked with Agile/Scrum principles

**California Polytechnic State University** – San Luis Obispo, CA *July 2017 - Present*
- Teacher's Assistant for upper division Computer Graphics course (OpenGL, C++)
- Volunteer Substitute Lecturer for intro level courses (Processing 2, Javascript)
- Lab Assistant for Engineering Possibilities in College (EPIC), an on-campus summer camp for high school students

## PUBLICATIONS / CONFERENCES

1. Co-researcher, co-author on paper accepted to ICRA 2018:
Rutledge, J., Yuan, W., [*et al*, including Lewis, A.] "Intelligent Shipwreck Search Using Autonomous Underwater Vehicles," *2018 IEEE International Conference on Robotics and Automation (ICRA)*, Brisbane, QLD, 2018, pp. 1-8. doi: 10.1109/ICRA.2018.8460548

2. Co-researcher, co-author, and co-presenter on paper accepted to ICAAH 2017:
Freed, S., Lewis, A., Rutledge, J., et al. (2017). "AUV and Graphics Research Motivated by Marine Archaeology: From Development to Discovery." Paper presented at the *International Conference on Aviation Archaeology and Heritage (ICAAH)*, Valetta, Malta.

## PROJECTS COMPLETED / RELEVANT SKILLS

C++ / OpenGL/ GLSL
- Astral Offensive: A real-time 3D tower defense
- Mapping 3D shipwrecks in a visually complex underwater environment
- Ray Tracer with implemented shadows, Cook-Torrance, Fresnel's, Beer's Law, Anti-Aliasing, and total internal reflection

C
- LZW Decompressor
- Calculon – a simplified UNIX command line

Java
- Designed animations for and programmed a Maze Game
- Developed own "arcade" featuring 5 games

JavaScript/HTML/CSS
- GLOWBE: a social media platform where students and researchers can connect and learn about opportunities abroad
- MyCRT: a Capstone project where my team developed a capture a replay tool for AWS

Python
SQL
Processing 2
Discrete Math
Agile/Scrum
Calculus
Linear Algebra
Differential Eq
Mathematica
Algorithms