Tim Callinan
25 Dorset Ct, Annapolis, MD 21403
(410) 533-3878
Annapolis.tim@gmail.com
www.youtube.com/timcallinan
www.maryland.design

OVERVIEW

Masters level Mechatronic Engineer teaching full-time in a local community college. My main experience is in solid-modeling, Solidworks, CREO Parametric, AUTOCAD, electronic packaging, mechanical design, automation, robotics, LABVIEW, microcontrollers, Arduino. I have a portfolio of drawings, designs & parts that can be shown.

EDUCATION

Masters in Electronics Systems, Dublin City University. (3.67 GPA)	2002 - 2003
B.Eng. in Mechatronic Engineering, Dublin City University. (3.34 GPA)	1998 – 2002
SKF Certification Bearings, Power Transmission, Lubrication, Rotating Motion	2014
Allen Bradley RSLogix 500 Maintenance and Troubleshooting Certification	2012
Siemens PLC Certified Mechatronics Instructor	2012
Solidworks Professional Certification	2011

PROFESSIONAL EXPERIENCE

Engineering Instructor – Anne Arundel Community College, Annapolis, MD   2008 –Present

- I am the head instructor for the Mechatronic program at AACC. I teach Mechanical systems, Motor Control, Introduction to Robotics, Programmable Logic Controllers, Microcontrollers and Solidworks.
- Prepare course syllabus, lesson plans, teaching aids, exams and other instructional materials.
- I have experience with 3D printing, circuit board routing, 6 axis industrial robot, CNC Mill and other mechatronics equipment.

Design Engineer – Janteq Inc, Annapolis, Maryland   2007 – 2008

- I worked on microwave electronics packaging. The entire systems – boards, chassis, connectors and cabling are all modeled up in Autodesk Inventor. (1000+ components)
- Have experience with heat control – heatsinks, fans, etc. I've used Floworks CFD to determine the best heat sink configurations. Designed extremely compact electronic units.
- I have experience with CNC milling & lathe machining so I can design well for manufacturing and assembly. Experience with different types of finishes, overlays, tactile switches, plating, IDF translation from electronic schematics.

Design Engineer – GMA Industries, Annapolis, Maryland   2004 – 2007

- My main functions at GMAI were mechanical drafting and technical writing. GMAI was an SBIR mill and a lot of my time was writing technical proposals, progress reports.
- I also did all mechanical design for the company. – Fixtures, enclosures, sensor mounts. All modeled up in Autodesk Inventor. Mainly simple 3 axis milled aluminum parts.

Mechanical Engineer – SKF, Steyr, Austria   2001

- Spent eight months full-time in the SKF Quality Technological Center, Austria for my internship. Worked in the department which develops quality testing machines for the range of SKF ball bearings.
- My two main tasks were to assist engineers by building prototype boards from electronic schematics and to develop 3D models of the testing machines in Autodesk Inventor.

Tim Callinan

25 Dorset Ct, Annapolis, MD 21403
(410) 533-3878
Annapolis.tim@gmail.com
www.youtube.com/timcallinan
www.maryland.design

CONTRACTING ENGINEERING WORK

Mechanical Design – SciGLOB LLC – Columbia, MD   **2018 - Present**

I have had the opportunity to work with SCIGLOB LLC over the years, providing assistance in mechanical design, 3D printing, and fabrication of their Pandora spectrometer and tracker instruments. My responsibilities included designing and developing mechanical components, as well as assisting with fabrication and assembly. Through this work, I gained valuable experience in mechanical design and 3D printing, as well as in the use of servos, automation, and sealing methods to protect electronics from weather. This work has been particularly interesting and rewarding, as it contributes to accurately measuring pollution levels worldwide.

Arduino/C Programming – Smithsonian, Washington DC   **2022**

As the sole Arduino programmer for the Smithsonian Institution Exhibits (SIE), I have a wealth of experience in designing and implementing automated systems. I have recently completed a significant project, where I was responsible for all the light automation on the Afro-Futurism exhibit at the Smithsonian National Museum of African American History and Culture. My expertise in Arduino, Raspberry Pi, LED, and wiring, enabled me to design and implement a highly advanced and sophisticated lighting system that enhanced the overall visitor experience.

Design Engineer – Imperium Inc, Beltsville, MD   **2017-2019**

During my tenure at Imperium Inc, I worked as a Mechanical Engineer and was responsible for designing, developing, and testing mechanical and electromechanical devices and systems. My key responsibilities included creating detailed designs, conducting experiments, and analyzing data, and collaborating with other engineers and teams to improve product performance and design.

Design Engineer – Library of Congress, Washington DC   **2006 –2016**

I had the opportunity to work on a challenging and rewarding project as a contractor for the Library of Congress (LOC). I was tasked with designing a cartridge duplicator for their Digital Talking Book player for the blind. My expertise in SolidWorks allowed me to design a highly functional and efficient duplicator that met the specific needs of the blind community. Throughout the project, I gained valuable experience in plastic injection molding, servo drives, and automation

Mechanical Engineer – Aerolab LLC, Laurel, MD   **2011- 2013**

SolidWorks designer, where I was responsible for designing and developing wind tunnels. My key responsibilities included creating fabrication drawings for manufacturing, designing for welding and sheet metal, and providing technical support for the entire fabrication process. My expertise in SolidWorks allowed me to design highly functional and efficient wind tunnels that met the company's specific needs and standards. Additionally, I have experience with photo-realistic rendering, mechanical design using gears, belts, pulleys, cams, limit switches, castors, mechanical hardware, and other related components. I also have experience in using advanced features of Solidworks, such as configurations and equation-driven models, to make my solid models and assemblies as smart as possible.

I have a wealth of experience working on various projects for multiple companies over the years (too many to put in a resume), which has led to the development of a large portfolio of drawings, projects, prototypes, and videos. I am more than willing to discuss these in further detail during an interview or meeting if there is interest in my experience and past work.