Jon Kline

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EDUCATION

Purdue University, College of Engineering, West Lafayette, IN — May 2020

- Major: Materials Science and Engineering — **3.2/4.00 GPA**
- Study Abroad in China
- Capstone Project – Electronics Reliability for NSWC Crane
- Material Advantage member – TMS 2019

PROFESSIONAL EXPERIENCES

Senior Capstone Project – NSWC Crane

Team Leader — August 2019 – May 2020

- Investigated the reliability of advanced 3D integrated packaging by sectioning, polishing, and image analysis of an isothermally annealed AMD GPU
- Performed administrative tasks such as creating experimental plan, editing progress reports and presentations for industry advisors, and maintaining morale
- Major finding: In a comparison between microbump solder joints with/without the addition of copper pillars, the microbumps w/o copper pillars were less reliable on the basis of IMC growth

SABIC Innovative Plastics

Technology Intern — May – August 2019

- Designed and performed tensile test experiments according to ASTM standards
- Improved on a proprietary framework for testing fracture energy of polymer composite interfaces by finding the relation between crack length and stiffness of a new DCB geometry
- Created reports of fracture mechanics literature for technicians and scientists to reference for materials testing

Purdue IEEE ROV (Remotely Operated underwater Vehicle)

Mechanical Team Leader — May 2018 – January 2019

- Taught CAD, CAM, CNC, and 3D printing techniques to new members
- Advocated increased use of 3D printing for rapid prototyping and experimentation – delegated experiments for resin filled 3D prints to improve strength, and flexible 3D printed manipulator

Mechanical Team Member — August 2016 – May 2018

- Designed reliable waterproof electronics enclosures to meet specifications such as depth, volume, heat transfer properties, mass, and modularity
- Manufactured enclosures and other mechanical parts using a combination of CNC mill, lathe, and 3D printing techniques

Purdue Engineering Peer Teacher

First Year Engineering Teaching Assistant — January – May 2019

- Supported students in class on learning foundations of MATLAB problem solving techniques such as array manipulation, regression analysis, iterative processes
- Graded exams and student assignments and provide constructive feedback based on learning objectives

Xinghang Zhang Nanometal Group

Undergraduate Researcher — January – December 2018

- Analyzed the effects of film thickness and substrate crystal orientation on texture, mechanical properties, and twinning mechanisms of deposited Al
- Presented results of increased mechanical strength with (111) substrate orientation due to increased twinning

SKILLS

Technical Writing Mechanical Testing Metallography CAD/CAM/CNC MATLAB Python