[1] A. V. Shembekar, Y. J. Yoon, A. Kanyuck, and S. K. Gupta, “Generating Robot Trajectories for Conformal Three-Dimensional Printing Using Nonplanar Layers,” J. Comput. Inf. Sci. Eng, vol. 19, no. 3, p. 031011, Apr. 2019.

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**Article Title:** Generating Robot Trajectories for Conformal Three Dimensional Printing Using Nonplanar Layers

**Purpose of the study:** Create the algorithms and software necessary to have a 6DOF arm FDM printer print with non planar layers (and onto non planar surface) to allow for more abstract geometries.

**Research Questions:** How can a robotic arm be programmed to print non planar layers from an stl file?

**Current Knowledge on Topic/Introduction:** Currently there are many sources that have done FDM 3D printing with robotic arms, and the previous research done by this team was developing one. This paper was about creating the system for generating toolpaths that allowed for printing non planar layers as there is not much research into that.

**Results/Future Work:** The researchers wanted to add another print head to their robot and look into creating more complex structures.

**Relation to Project:** This research is related as it shows an algorithm for printing a structure onto an uneven surface. The researchers even point out in the introduction that this technology could be used for repair of structures. We could use this algorithm for the generation of the toolpath after the structure is mapped and repair plans are made.

**Sources (Is there more info in *its* sources?):** There are some good sources it references about using arms in 3D printing.

**Additional Notes:**