Aja Hartman has a mechanical engineering B.S. degree from Santa Clara University and will receive her Master's degree in materials engineering March 19th, 2021. She has over 20 filed patent applications and 10 publications. Apart from her cutting-edge research in 3D print materials processing, she enjoys tinkering with a different set of materials, cooking her way through recipe books and exploring 2D to 3D transformations through her leatherwork. Learn more about her current work and projects at iamaja.com.

Aja Hartman

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Education

Santa Clara U, Graduate School of Engineering, Santa Clara Sept 2018 – Present

Santa Clara U, School of Engineering, Santa Clara Sept 2011 – June 2015
Graduated with a GPA of 3.892, magna cum laude, on the Dean's List of the School of Engineering annually, a member of the Tau Beta Pi Engineering Honors Society, Society of Women Engineers, Santa Clara University Orchestra, and One Step Ahead Volunteer.

Work Experience

3D Printing Research Engineer, HP Labs Palo Alto July 2015 – Present
Researches process control effects on mechanical properties and chemical reactions of novel 3D printing agents on HP Multi Jet Fusion 3D printing platforms. Current projects include optical, mechanical, and process control effects of plasticizer with different print parameters and material loading. Both *Leading the Way* and *Best Disruption Reinventor* awards recipient.

Manager (Summer Internship), Gilbane Construction, San Jose June 2014 – Sept 2014
Responsible for communication and coordination between the school owners, architects, and general contractors.

ME Designer (Summer Internship), Gov. Contractor, Palo Alto Sept 2013 – Sept 2014
Invented a solution to increase voting accuracy

Machine Shop Manager (Summer Internship), CMU, Moffett Field July 2013 – Sept 2013
Responsible for electrical and mechanical machine maintenance and machine certification for students and teachers.

Soft Skills

Culture, community, and team builder, self-motivated, fast learner, good communicator, curious

Tools

SolidWorks, Creo, MATLAB, Materialize Magics, Netfabb, ImageJ, WinSCP, PuTTY, MobaXterm, 3D printers, UV spectrometer, SEM, STM, EDX, AZtec, tensile tester, density tester, Izod impact tester, hardness tester, laser cutter, mill, drill, lathe, soldering, Repetier Host, Inkscape, corelDRAW, Visio, Photoshop, Microsoft Office Suite,

Publications

Hartman A, Nauka K, 3D Printing of Polymers with Xenon Flash Lamp, Solid Freeform Fabrication Symposium 2019

Hartman A, Zhao L, Olubummo P, Scalability of Activating Fusing Agent for Enabling Multi-Color and Translucent 3D Printing with Multi Jet Fusion, Halftoning Printing Imaging Content Symposium 2018

Hartman A, Zhao L, Method to Voxel Control Variable Fusing Ability for Multi-Characteristic 3D Printing with MJF, Halftoning Printing Imaging Content Symposium 2018

Erickson K, Hartman A, Olubummo P, Tom H, Zhao L, Mechanical Voxel: Creating Variable Rigidity in MJF Printed Parts, Chemist Summit 2017

Hartman A, Olubummo P, Zhao L, Nickel Dithiolene Based Fusing Agent for HP's MJF 3D Printing of White Parts, Chemist Summit 2017

Chaffins S, Erickson K, Hartman A, Tom H, Zhao L, The Conductive Voxel: Conductive Features within Polymer Parts Using MJF, Solid Freeform Fabrication Symposium 2017

Erickson K, Esparch C, Hartman A, Olubummo P, Zhao L, The Mechanical Voxel: Variable Rigidity Polymer Parts Using MJF, Solid Freeform Fabrication Symposium 2017

Erickson K, Esparch C, Hartman A, Tom H, Zhao L, The Mechanical Property Voxel: Mechanical Tailoring Agents for Modifying Mechanical Properties of MJF Parts at a Voxel Level, Halftoning Printing Imaging Content Symposium 2016

Hartman A, Zhao L, Pattern Recognition Method to Qualifying HP Multi Jet Fusion Printing and Printed Parts, Halftoning Printing Imaging Content Symposium 2016

Goyette G, Hartman A, Hereford S, Montgomery H, Proof of Concept Planetary Lander Test Article, International Planetary Probe Workshop 2015

Patents

Erickson K, Hartman A, Olubummo P, Zhao L, Three-dimensional printed part, Application No. PCT/US2017/039776

Olubummo P, Harman A, Zhao L, Fusing agent including a metal bis(dithiolene) complex , Application No. PCT/US2017/027881

Olubummo P, Erickson K, Hartman A, Tom H, Zhao L, Fusing agent including a tetraphenyldiamine-baased dye, Application No. PCT/US2017/016674

Olubummo P, Erickson K, Hartman A, Tom H, Zhao L, Fusing agent including a metal Bis(Dithiolene) complex, Application No. PCT/US2017/016681

Olubummo P, Hartman A, Tom H, Zhao L, Zhao Y, Three-dimentional (3D) printing with discoverable near-infrared absorbing dye, Application No. PCT/US2017/016679

Hartman A, Zhao L, Deviant control in additive manufacturing, Application No. PCT/US2017/013914

Hartman H, Nauka K, Zhao L, 3D Printer with a UV Light Absorbing Agent, Application No. PCT/US2016/059693

Hartman H, Zhao L, Build material layer quality level determination, Application No. PCT/US2016/044755

Zhao Y, Chaffins S, DeKam K, Erickson K, Hartman A, Zhao L, Forming three-dimensional (3D) electronic parts, Application No. PCT/US2016/044214

Erickson K, Fitzhugh A, Hartman A, Tom H, Zhao Y, Zhao L, Three-dimensional (3D) printing, Application No. PCT/US2016/032027

Nauka K, Hartman A, Kasperchik V, Finishing a 3D printed object, Application No. PCT/US2016/030941

Erickson K, Hartman A, Olubummo P, Tom H, Zhao L, Temperature control in 3D object formation, Application No. PCT/US2017/041370

Hartman A, Anthony T, Dispoto G, Huang W, Jangam J, Zhao L, Methods to track and trace 3D printed polymer objects using embedded magnetic nanoparticles, Application No. PCT/US2019/065676

Huang W, Hartman A, Olubummo P, A Method of Controlling Internal Voids in MJF Parts, Application No. PCT/US2019/065659

Hartman A, Jangam J, Zhao L, Metal 4D Printing Smart Self-assembly structures, Application No. PCT/US2019/055802

Hartman A, Huang W, Jangam J, Olubummo P, Wycoff K, Voxel Microstructure Printing with Multiple Property Modulation Agents on Multi Jet Fusion Platform, Application No. PCT/US2019/055501

Olubummo P, Hartman A, Thonet A, Zhao L, Novel method of digitally-controlled properties tailoring of 3D printed parts at macro and voxel level, Application No. 20315022.2

Olubummo P, Hartman A, Wycoff K, Zhao L, In-Situ crosslinking of PA12 during HP's MJF 3D Printing, Application No. PCT/US2019/029641

Erickson K, Hartman A, Wittkopf J, Zhao L, Resumption of MJF Printing on Partially Printed Parts or on Objects Placed in an MJF Print Bed, Application No. PCT/US2019/034121

Olubummo P, Hartman A, Wycoff K, Zhao L, Engineering the properties of HP's MJF 3D parts via Epoxy/Amine Chemistry Application No. PCT/US2019/022756

Hartman A, Erickson K, Gottwals M, Olubummo P, Tastle I, Selective Control of Translucency in MJF Parts Using a Plasticizer Agent Application No. PCT/US2019/041805

Dockstader L, Hartman A, Woodlock D, Zhao L, Adding a readable label to the surface of a 3D printed object by varying the printing process, Application No. PCT/US2019/022473

Hartman A, Baker M, Gottwals M, Ju A, Tastle I, Tom H, Zhao L, Method to Create Variable Opacity within Multi Jet Fusion Printed Parts Application No. PCT/US2018/065806

Erickson K, Hartman A, Olubummo P, Zhao L, Plasticizer Functional Agent for Improving the Density of Multi Jet Fusion Printed Parts, Application No. PCT/US2018/022667

Olubummo P, Hartman H, Tom H, Zhao L, New formulation with Nickel Bis(Dithiolene)salt for HP's MJF 3D Printing, Application No. PCT/US2017/058122

Olubummo P, Hartman A, Zhao L, Tailoring the Mechanical property of PA12 using Epoxy/Amine Chemistry for HP's MJF 3D Printing Technology, Application No. PCT/US2018/052327