Aja Hartman

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Introduction

A materials scientist and mechanical engineer with over seven years' experience in the digital manufacturing industry. Passionate about exploring materials processing in both career and through personal projects and cooking.

Education

2018–2021 **M.S. Materials Engineering**, *Santa Clara University*.

2011–2015 **B.S. Mechanical Engineering major, Aerospace minor**, *Santa Clara University*.

Experience

2015–current **Research Engineer**, *HP Labs*, Palo Alto, CA.
Combining mechanical architecture, material science, and 3D print processing to further Multi Jet Fusion technology. Metrology specialist with ASTM and ISO standards for material characterization, defining standard reference measurements, and standard operating procedures across sites. Tools: SolidWorks, Creo, MATLAB, Materialize Magics, Netfabb, ImageJ, 3D printers, TGA, DSC, SEM, STM, EDX, XRD

2014 **Manager Intern**, *Gilbane Construction*, San Jose, CA.
Responsible for communication and coordination between the property owners, architects, and general contractors.

2013–2014 **ME Designer**, *Gov. Contractor*, Palo Alto, CA.
Invented a solution to increase voting accuracy.

2013 **Machine Shop Manager Intern**, *Carnegie Mellon University*, Moffet Field.
Responsible for electrical and mechanical machine maintenance and machine certification for students and teachers.

Awards and Honors

2022 Community Spotlight Award, *HP*

2021 Patent Award, *Society of Women Engineers*

2017 Leading the Way Award, *HP*

2017 Reinventor Award, *HP*

2015 Magna Cum Laude, *Santa Clara University*

2011–2015 Dean's List of School of Engineering, *Santa Clara University*

Issued Patents

U.S. Patent 11192306, "Build layer temperature control", Issued Dec 7, 2021
U.S. Patent 11072123, "Deviant control in additive manufacturing", Jul 27, 2021
U.S. Patent 11008479, "Fusing agent including a tetraphenyldiamine-based dye", May 18, 2021
U.S. Patent 10832394, "Build material layer quality level determination", Issued Nov 20, 2020
U.S. Patent 10857733, "3D printing with discolorable near-infrared absorbing dye", Issued Dec 8, 2020
U.S. Patent 10781228, "Fusing agent including a metal bis(dithiolene) complex", Issued Nov 22, 2020
U.S. Patent 10647053, "Three-dimensional (3D) printing", Issued May 12, 2020
EP3452268 "Finishing a 3d printed object", Issued Oct 20, 2021

Patent Applications

US20190134898 “Forming three-dimensional (3d) electronic parts”, Published May 9, 2019
US20190030788 “Three-dimensional (3d) printing”, Published Jan 31, 2019
WO2018194542 “Fusing agent(s)”, Published Oct 25, 2018
US20210299967 “Deviant control in additive manufacturing”, Published Sep 30, 2021
US20210138725 “Three-dimensional printing” Published May 13, 2021
US20190147585 “Build material layer quality level determination”, Published May 16, 2019
WO2018080537 “3d printer with a uv light absorbing agent”, Published May 3, 2018
WO2017138915 “Build layer temperature control”, Published Aug 17, 2017
WO2020060588 “Three-dimensional printing”, Published Mar 26, 2020
WO2019005044 “Three-dimensional printed part”, Published Jan 3, 2019
EP3452268 “Finishing a 3d printed object”, Published Mar 13, 2019
EP3519164 “Fusing agent including a metal bis(dithiolene) complex”, Published Aug 7, 2019
US20210284858 “Fusing agent including a metal bis(dithiolene) salt”, Published Sep 16, 2021
WO2020122950 “Opacifying agent application in three-dimensional printing”, Published Jun 18, 2020
WO2020242451 “Interrupted additive manufacturing”, Published Dec 3, 2020
O2021118554 “Three-dimensional printing”, Published Jun 17, 2021
WO2020190258 “Patterns in additive manufacturing”, Published Sep 24, 2020
WO2019013751 “Temperature control in 3d object formation”, Published Jan 17, 2019
WO2018144032 “3D printing with discolorable near-infrared absorbing dye”, Published Aug 9, 2018
WO2021118555 “Three-dimensional printing”, Published Jun 17, 2021
EP3871859 “Three-dimensional printing”, Published Sep 1, 2021
EP3947526 “Three-dimensional printing”, Published Feb 9, 2022
US20190048219 “Fusing agent including a tetraphenyldiamine-based dye”, Published Feb 14, 2019
EP3911464 “Three-dimensional object formation”, Published Nov 24, 2021
US20220009161 “Three-dimensional printing”, Published Jan 13, 2022

Publications

"Effect of Build Parameters on the Material Properties of Printed Parts Produced by Multi-jet Fusion", *Solid Freeform Fabrication Symposium 2021*
"3D Printing of Polymers with Xenon Flash Lamp", *Solid Freeform Fabrication Symposium 2019*
"Scalability of Activating Fusing Agent for Enabling Multi-Color and Translucent 3D Printing with Multi Jet Fusion", *Halftoning Printing Imaging Content Symposium 2018*
"Method to Voxel Control Variable Fusing Ability for Multi-Characteristic 3D Printing with MJF", *Halftoning Printing Imaging Content Symposium 2018*
"Mechanical Voxel: Creating Variable Rigidity in MJF Printed Parts", *Chemist Summit 2017*
"Nickel Dithiolene Based Fusing Agent for HP's MJF 3D Printing of White Parts", *Chemist Summit 2017*
"The Conductive Voxel: Conductive Features within Polymer Parts Using MJF", *Solid Freeform Fabrication Symposium 2017*
"Mechanical Voxel: Variable Rigidity Polymer Parts Using MJF", *Solid Freeform Fabrication Symposium 2017*
"The Mechanical Property Voxel: Mechanical Tailoring Agents for Modifying Mechanical Properties of MJF Parts at a Voxel Level", *Halftoning Printing Imaging Content Symposium 2016*
"Pattern Recognition Method to Qualifying HP Multi Jet Fusion Printing and Printed Parts", *Halftoning Printing Imaging Content Symposium 2016*
"Proof of Concept Planetary Lander Test Article", *International Planetary Probe Workshop 2015*

Memberships

Tau Beta Pi Engineering Honor's Society, Society of Women in Engineering, American Society of Mechanical Engineers