Christian Duessel

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Education

Massachusetts Institute of Technology | May 2025
B.S. Materials Science and Engineering, B.S. Mechanical Engineering; GPA: 5.0/5.0

Relevant Coursework
Electrical, Optical, and Magnetic Prop. of Materials. Materials Processing for Micro-Nano Systems. Semiconductor Electronic Circuits. Principles of Manufacturing. Measurement and Instrumentation.

Skills
Data analysis: JMP, Python, Matlab

Nanofabrication process development: PECVD, PVD, K-layout, UV/Ebeam Litho, RIE, SEM, AFM, Ellipsometry

Manufacturing: SPC, DOE, Six Sigma Green Belt certification

Analog/Digital Design: Cadence, Minispec (HDL), Intel 22nm tapeout, Assembly, C

Mechanical Design: NX, Solidworks, Fusion 360, FEA, GD&T

Professional Experience

Intel | BSM + Thinning | Engineering Intern | June – August 2024
Identified and fixed root cause for plasma extinction events in PVD system using JMP and MBPS with Process Engineer; recommended new SPC limits for early detection scheme

Prototyped, built, and programmed modular computer vision system to log tool parameters otherwise inaccessible to factory systems

Electronic Materials Research Group | Undergraduate Researcher | January 2023 – Present
Fabricated and tested graded-index photonic chip-to-chip coupler with graduate student

Characterized and developed PECVD, RIE, ICP-RIE, and UV/Ebeam Lithography processes using SEM, ellipsometry, profilometry, and AFM

Adaptive Vision and Robotics | Engineering Intern | June – August 2023
Refined, tested, and installed palletizing cobot with robotics engineer

Developed HMI and defect pattern-recognition software for visual inspection of sheet material

Motus Labs | Mechanical Engineering Intern | May – August 2022
Designed and conducted thermal resistance, static moment, lifetime, and laminate tests

Developed next iteration with 3-person engineering team, incorporating testing insights

Teaching and Leadership

Teaching Assistant | Introduction to Solid State Chemistry | Fall 2024
Lead 1-hour recitations twice weekly with 25 students; create class notes and quizzes; host office hours

Makerspace Mentoring | September 2023 – Present

Tutoring | September 2017 – 2021
Tutored 100+ middle/high school students in math and science, first at Mathnasium then as an independent tutor

MIT Crew Team | 2021-present