

Yuhao Chen

Product Manager



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Singapore Citizen

My career in Photonics is characterized by strong engineering roots synergized with business-development (BD), epitomized in Product Management (PM). Specializing in lasers & photonics, I also acquired management techniques like policy formulation & systemic thinking throughout my work. Industry knowledge allows me to discourse with end users for tech support and to identify gaps in product specs while facilitating solution implementation & life-cycle planning.

PRODUCT MANAGEMENT

- Drive highly customized projects; Tracking of requirements, documentation & progress
- Sourcing of products & suppliers to offer solutions matched to customers' needs
- Create competitive differentiation by sourcing suppliers & materials to reduce cost
- Develop pricing strategy and market research to differentiate from competitors
- Make marketing materials for sales; Propose sales strategy & direction of market growth
- Active evangelizing of lasers and optical products to end users
- Technical support & training for laser optical products (AOMs, fiber, lens, lasers etc.)
- Train sales managers in technical specs; Train engineers in market trends
- Tech road map according to market trends to keep products "ahead of the curve"
- Life cycle management: requirements, design, development, production, QA, logistics

EMPLOYMENT

Singapore
2022 -
present

Product & Project Manager – Excelitas Technologies Singapore (Qioptiq)

- Manage portfolios of Optical Inspection & Biophotonics with revenues >\$12m/yr
- Drive complex NPI development projects with >200 level BOM items per asy
- Raise standard margins to target >40% across all product lines
- Coordinate different functional teams across N. America & Europe & Asia

Singapore
2016-2022

Industry Research – Nanyang Technological University & Sintec

- Conducted experiments on ultrafast fiber laser with novel micro-structured fiber
- Authored and published papers; CLEO and SPIE conference presentations
- New product development concurrently with PM responsibilities @ Sintec

Singapore
2013-2022

Product Manager - Sintec Optronics Pte Ltd

- Connect ultrafast lasers to market entry/expansion taking 10% of market share
- Identified trend of blue laser for materials processing, leading to >\$500k sales
- Secured sole supplier of metrological equipment for fiber optics >\$400k amount
- Implement production cost savings of ~20% for each customised laser system
- Improve assembly & ergonomics of scanheads to reduce product cost by ~33%
- Provide pre & post sales tech support on laser optical systems worth >\$250k ea
- Reduce exhibition cost at Laser World of Photonics: Shanghai & India & Munich

Boston,
USA
2011-2013

Researcher - Nanostructured Fiber & Nonlinear Optics Lab, Boston University

- Lead research projects: Design & characterization of multi-mode optical fibers
- Investigation of higher order modes & nonlinearities in high power fiber lasers
- Co-authored and published papers, and gave CLEO conference talks

Singapore
2010-2010

Electro-optics Engineer - ERL, DSO National Labs

- Missile seeker optics & tracking algorithms; Characterization of IR sensors

Singapore
2008-2010

Asst. Manager (Systems Policy & Capability Development) - DISO, MINDEF

- Performed project assignments, policy writing; Lead on industry research
- Involved mapping out Defence Technology Ecosystem for systemic planning
- DISO Excellence Awards for project contributions like SG Airshow, Tech-X

EDUCATION

Singapore
2016-2022

Ph.D Electrical Engineering – Nanyang Technological University

- EDP IPP scholarship; Develop ultrafast fiber laser at 2 μm

Boston, USA
2010-2013

M.Sc Electrical Engineering – Boston University

- ECE scholarship; Concentration in Electromagnetics & Photonics

Ottawa, Canada
2003-2007

B.A.Sc (Honors) Electrical Engineering – University of Ottawa

- Concentration Microwaves & Photonics; Minor in Business Management

Publications list: publications.chenyuhao.com

TECHNICAL SKILLS

Optics Manufacturing	<ul style="list-style-type: none">▪ Involved in Optics manufacturing process from design to mass production.▪ Know processes from Glass material blanks, Blocking, Grinding, Polishing, Diamond Turn, Centering, Bonding, Coating, Metrology interferometry
Lasers (NEA N3 Laser Licence)	<ul style="list-style-type: none">▪ Operation and maintenance of Coherent Ar-Ion laser; calibrated for SHG▪ Characterization of DPSS, HeNe, CO₂, fiber, Ultrafast, SLM lasers▪ Laser beam collimation, P-I curve, Knife-edge beam measurements▪ High power fiber laser builds, Characterized components, optimize output▪ Build CW/pulsed fiber lasers, including research into ultrafast fiber lasers
Industrial Laser Applications	<ul style="list-style-type: none">▪ Laser marking machine assembly, testing, deployment at factories▪ Tuning scanheads, galvanometers, control cards for laser machines▪ Laser Applications testing of materials processing quality▪ Deployment of visible fiber lasers and alignment into microscope system
Photonics and Fiber Optics	<ul style="list-style-type: none">▪ Familiar with lab equipment like OSA, IR camera, microscope, optics, etc.▪ Optical fiber handling: cleaving, splicing, polishing, inspecting end face▪ Used Spatial Light Modulator to convert modes & couple back into fiber▪ Designed, fabricated, tested, characterized custom fibers & gratings▪ Beam propagation simulation of non-standard beam shapes▪ Optical nonlinearities & applications of higher order modes in fiber optics
Programming and Hardware interface	<ul style="list-style-type: none">▪ Past experience in C, C++ & Java and Object Oriented Programming▪ Used LabVIEW and MATLAB to interface with lab equipment like shutter, translation stages, fusion splicer unit, InGaAs camera, OSA etc.
Matlab and Simulations	<ul style="list-style-type: none">▪ Coded finite difference solver for optical fiber modes and parameters (propagation constants, dispersion, mode profile, spotsize, power etc.)▪ Coded split-step differential eqn solver for nonlinear pulse propagation
Electronics	<ul style="list-style-type: none">▪ Oscilloscope, multimeter, RF power meter, function gen; soldering
Chemical handling and Clean Room	<ul style="list-style-type: none">▪ Class 100 clean room training and experience▪ Trained to handle hazardous materials (HF, HNO₃, and H₂SO₄ acids)▪ Trained to handle compressed and liquefied gases (N₂, H₂, CO gases)
IT, Data, ERP	<ul style="list-style-type: none">▪ Setup office cloud on Windows Server; Website management▪ Write .python scripts to interface SAP and Anaplan data with Excel

INTERPERSONAL AND COMMUNICATION SKILLS

- English & Spoken Mandarin; Learnt technical jargon in Mandarin to train Chinese engineers
- Interact with different cultures; Liaise with Chinese suppliers and Indian customers
- Able to adapt quickly, complement teammates, work alone to analyze and solve problems
- Translate customer requirements to technical specs that engineering team can understand
- Negotiate prices, lead times; Mediate between US/UK suppliers and China/India customers
- Ability to take up responsibilities outside of technical job scope

HOBBIES AND INTERESTS

- Class 3B driver's licence • Tinker with tech & build PCs • Swim, Gym, Rockclimb, Longboard
- Volunteer at Meet-the-People-Session and Youth Grassroots leader at Community Club