

# Fernando B. Avila-Rencoret

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## SUMMARY

Dynamic and accomplished Medical Robotist and Clinical Physician with a distinguished career in biomedical engineering and medical device development, specializing in surgical vision. Proven leader in managing cross-disciplinary teams, driving innovation, and navigating complex regulatory environments in critical care. Experienced in developing and executing technology vision and strategy aligned with overall business goals. Skilled in leveraging emerging technologies such as artificial intelligence, computational biophotonics, imaging sensor technologies, optoelectronics, optical systems, computer vision, edge-to-cloud computing, and data analytics to enhance surgical vision products and services. Committed to driving technological advancement and improving patient outcomes, open to executive leadership roles in medical technology innovation.

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## KEY CAPABILITIES

### Technology Vision & Strategy:

Ability to develop and execute the technology vision and strategy in alignment with the company's goals and market trends.

### Emerging Technologies:

Proficiency in AI, computational biophotonics, imaging sensor technologies, optoelectronics, optical systems, computer vision and data analytics.

### IP Management:

Experience in managing intellectual property strategies, including patent filings and protection.

### Regulatory Compliance:

Extensive experience adhering to regulatory requirements and industry standards related to technology, patient and operator safety, data privacy, and cybersecurity.

### Leadership:

Demonstrated ability to lead diverse teams of technology professionals and scientists, fostering a culture of inclusion, innovation, collaboration, and technical excellence.

### Cross-Functional Collaboration:

Strong ability to collaborate with cross-functional teams to integrate technology into product development and commercialization processes.

### Technology Transfer & Lean Development:

Experienced in driving technology transfer into production, focusing on lean development concepts and continuous improvement objectives.

### Stakeholder Communication:

Proven skills in providing technical leadership and guidance to internal and external stakeholders, including executive leadership, investors, and customers.

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## EXPERIENCE

### Clinical Insights Consultant Physician, Cambridge Design Partnership, UK

- Delivered user-centric medical system and device developments, uncovering innovation opportunities through structured research methodologies.
- Achieved sales and business development targets, contributing to the company's growth and client satisfaction.

### Chief Technology & Medical Officer, Startup in Stealth Mode, Cambridge, UK

- Oversaw technical and medical direction, driving innovation and growth.
- Cultivated strong client relationships, contributing to the startup's success.

### Senior Consultant, Clinical Systems Engineering, The Technology Partnership, UK

- Collaborated with scientists and engineers to invent, design, and develop new products and technologies.
- Managed client communication on commercial matters, contributing to client retention.

### Ambulance Service Shift Manager, Santiago, Chile

- Led and optimized emergency medical services for 9M population, managing 200+ personnel and resources.

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## PROJECTS

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### Hyperspectral Margin Assessment for Cancer Surgery

Co-led research and co-supervised undergraduate and graduate students, demonstrating leadership and mentorship skills. Leading hardware and software developer, showcasing technical expertise and innovation.

### Robotic Wide-Field Hyperspectral Optical Biopsy Imaging for the Early Detection of GI Cancer

Led the development of a robotic device for the early detection of GI cancer, demonstrating innovation and technical acumen.

### COVID-19 Emergency Mechanical Ventilators Accelerator, Chile

Led a project to develop and validate emergency mechanical ventilators in Chile during the COVID-19 crisis. Helping the Chilean Government to move from concept to First-in-Human in 4 months under regulatory and ethical standards.

Managed multidisciplinary team project on a budget (~ £800 K) and under time constraints (4 months), demonstrating project lead, management skills and adaptability.

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## EDUCATION

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### Doctor of Philosophy (PhD)\*, Clinical Medicine Research in Surgery and Cancer

Imperial College London. \*Candidate currently submitting the thesis.

### MRes, Medical Robotics and Image Guided Intervention

Imperial College London

### Medical Doctor (M.D.), Professional Title: *Médico Cirujano* / Medical Sciences (UK GMC 7379229)

Pontificia Universidad Católica de Chile

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## AWARDS, RECOGNITIONS & PATENTS

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### Innovators Under 35, MIT Technology Review

**Best Paper and Presentation Award**, Workshop on Computer/Robot Assisted Surgery - CRAS

**Best Pitch, B.E.S.T. Innovation Symposium**, L'Institut de Recherche contre les Cancers de l'Appareil Digestif (IRCAD), France

**Top 5 Finalist, Thomas F. Deutsch Fellowship**, The Optical Society / Wellman Center - Massachusetts General Hospital

**EAES Gerhard Buess Technology Award**, European Association for Endoscopic Surgery, EAES

**Patent: SIMPLE: Single Incision Micro Ports Laparoscopic Endosurgery** (GB GB1806943.5)

**Patent: Probe deployment device** (EU WO2016141962A1, granted in Japan: JP6634548B2, Pending in US and EU)

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## SKILLS

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**Technology Vision & Strategy:** Strategic Analysis, Market Intelligence, Human Factors in End-User Research

**Biophotonics & Imaging Technologies:** Computational Biophotonics, Imaging Sensor Technologies, Optoelectronics, Optical Systems Design, Medical Robotics, Mechanical Design

**Artificial Intelligence & Data Analytics:** Computer Vision, AI & Machine Learning, NLP in Medical Technology, Data Analytics

**Software & Systems Engineering:** System Modelling & Integration, Software Development (Python, MATLAB, UML)

**Surgical Technology, Medical Device Development & Compliance:** Medical Device Development, Technology Transfer (R&D to Production), Lean Development & Continuous Improvement, Regulatory Compliance (Medical Devices), IP Management

**Leadership & Communication:** Leadership for High-performing technical teams, Cross-Functional Collaboration, Stakeholder Engagement

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## CONTINUOUS LEARNING

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Proven dedication to staying up to date with the latest technological advancements in surgical technologies, demonstrating a passion for innovation and transformation in the field of surgical vision.

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## REFERENCES

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Contact details upon request and only during the interview stage of the recruitment:

- Stephen Cresswell, Flusso Limited, UK
- Richard Lintern, The Technology Partnership, UK
- Rita Stella, The Technology Partnership, UK
- Giovanni Pittiglio, Boston Children's Hospital & Harvard Medical School, MA, USA