Medical Robotics
This book provides a thorough background to the emerging field of medical robotics. It covers the mathematics needed to understand the use of robotic devices in medicine, including but not limited to robot kinematics, hand-eye and robot-world calibration, reconstruction, registration, motion planning, motion prediction, motion correlation, motion replication and motion learning. Additionally, basic methods behind state-of-the art robots like the DaVinci system, the CyberKnife, motorized C-arms and operating microscopes as well as stereotactic frames are presented. The book is a text book for undergraduates in computer science and engineering. The main idea of the book is to motivate the methods in robotics in medical applications rather than industrial applications. The book then follows the standard path for a robotics textbook. It is thus suitable for a first course in robotics for undergraduates. It is the first textbook on medical robotics.

**Book Information**

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