

# PARADIGMS

PARALLEL PARADIGMS

**DATA** PARALLEL

**DOMIAN** DECOMPOSITION

**TASK** PARALLEL

**FUNCTIONAL** DECOMPOSITION

DATA PARALLEL PARADIGM

**FLINT'S** TAXONOMY

**SIMD or SPMD**

EXECUTING

**SAME**

**INSTRUCTION**

**OR PROGRAM (KERNEL)**

**ON DIFFERENT DATA**

**DATA PARALLEL PARADIGM**

**LOADING DATA**

**DATA  
PARTITIONING**

**SENDING DATA**

**KERNEL EXECUTION**

**GATHERING RESULTS**

DATA PARALLEL PARADIGM

# SERIAL SOLUTION



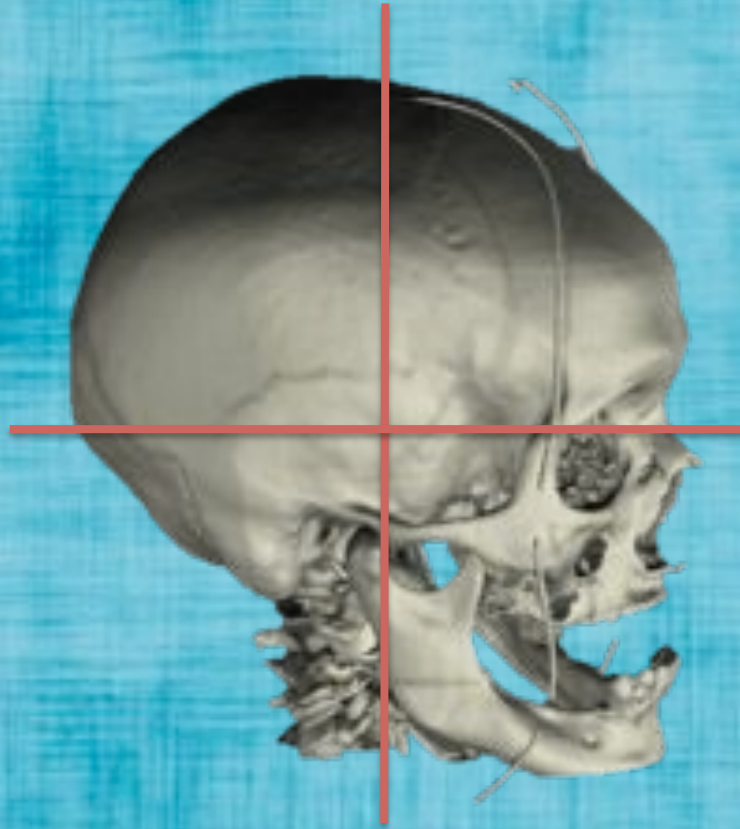
DATA PARALLEL PARADIGM

# SERIAL SOLUTION



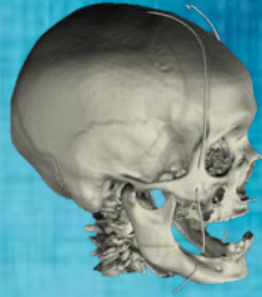
DATA PARALLEL PARADIGM

# PARALLEL SOLUTION



PARTITIONING ACCORDING TO  
AVAILABLE RESOURCES

# DATA PARALLEL PARADIGM



# DATA PARALLEL PARADIGM



TASK PARALLEL PARADIGM

**FLINT'S** TAXONOMY

**MIMD**

**EXECUTING**

**DIFFERENT**

**INSTRUCTIONs**

**OR PROGRAMs (TASKs)**

**ON DIFFERENT DATA**

**TASK PARALLEL PARADIGM**

**LOADING DATA**

**TASKs**

**SCHEDULING**

**ASSIGNING TASKs**

**TASKs EXECUTION**

**GATHERING RESULTS**

**TASK PARALLEL PARADIGM**

**SERIAL SOLUTION**



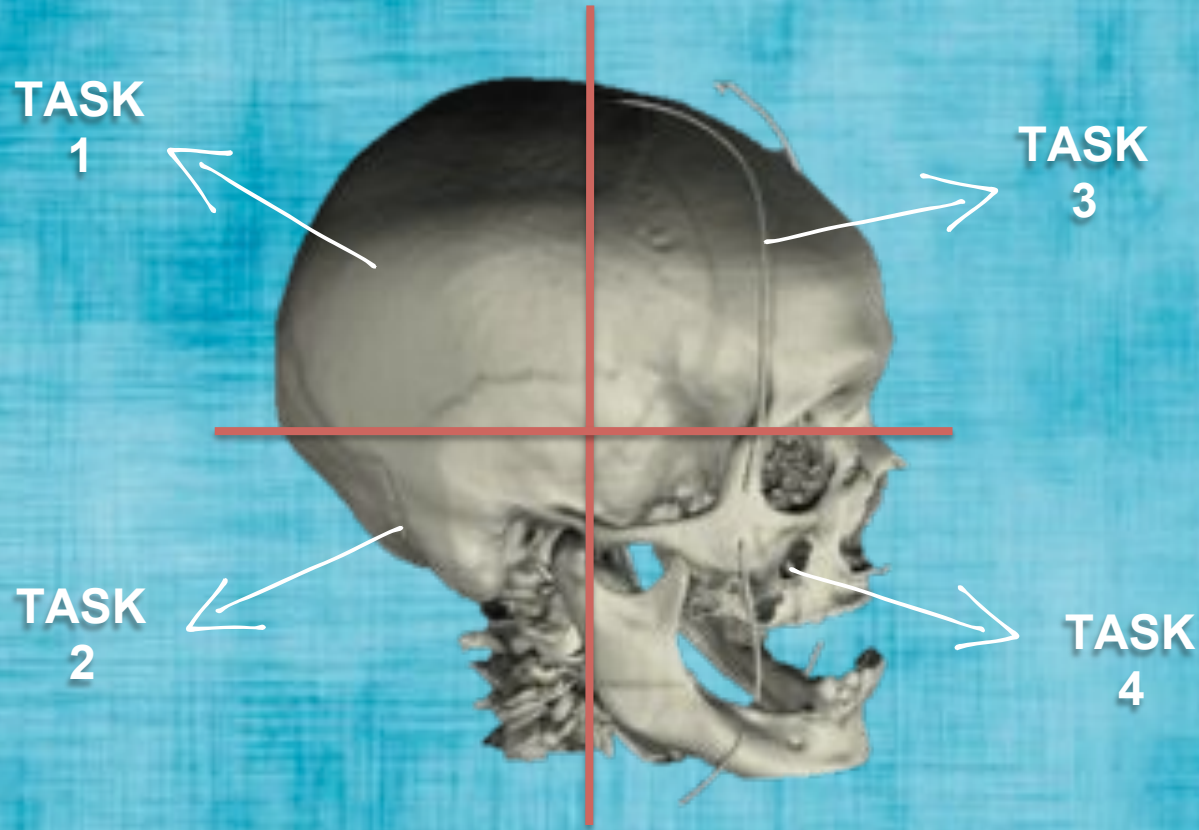
TASK PARALLEL PARADIGM

# SERIAL SOLUTION



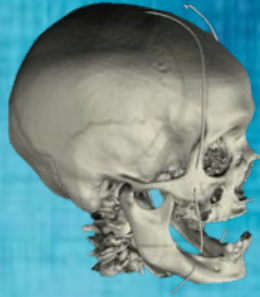
TASK PARALLEL PARADIGM

# PARALLEL SOLUTION



SCHEDULING ACCORDING TO  
AVAILABLE RESOURCES

# TASK PARALLEL PARADIGM



# DATA PARALLEL PARADIGM

