Flexibility and rigidity index for chromosome packing, flexibility and dynamics analysis

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Problems & Ideas

- Problems of quantitatively analyzing chromosome packing, flexibility and dynamic properties.
- Ideas: FRI based model for chromosome flexibility and dynamics analysis

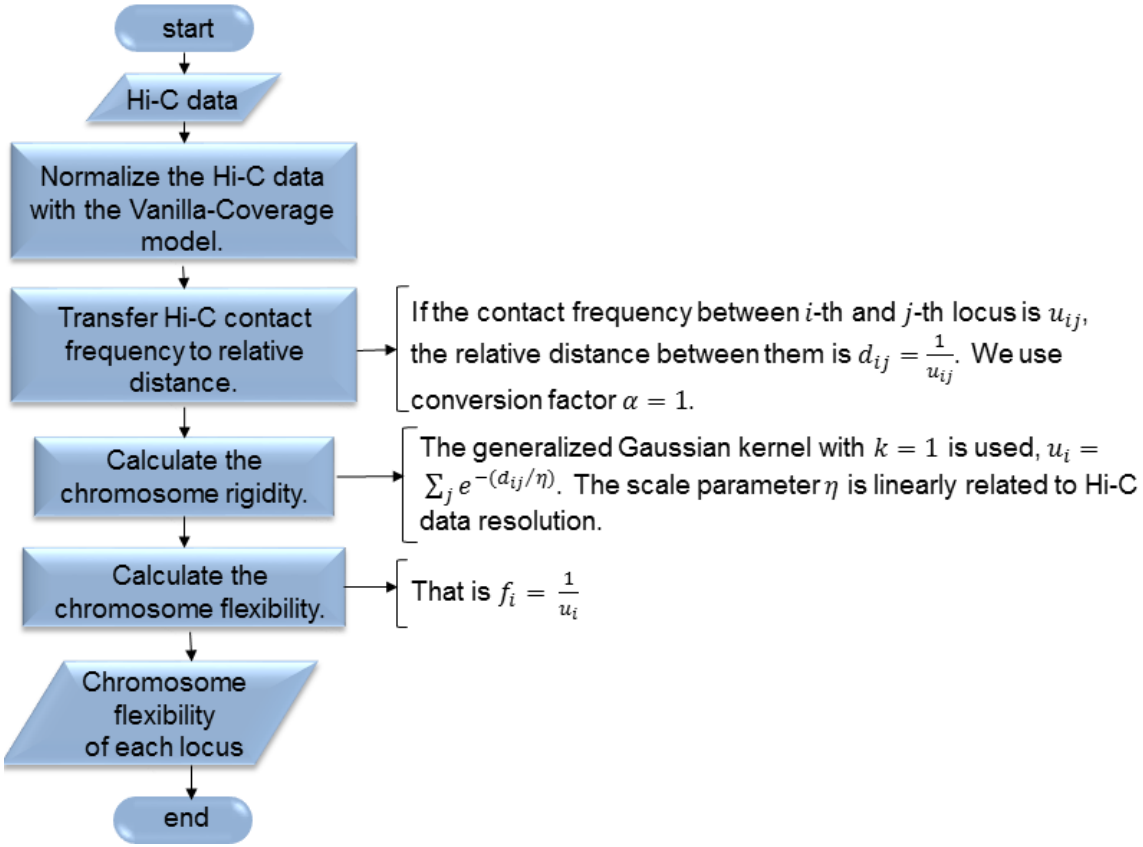
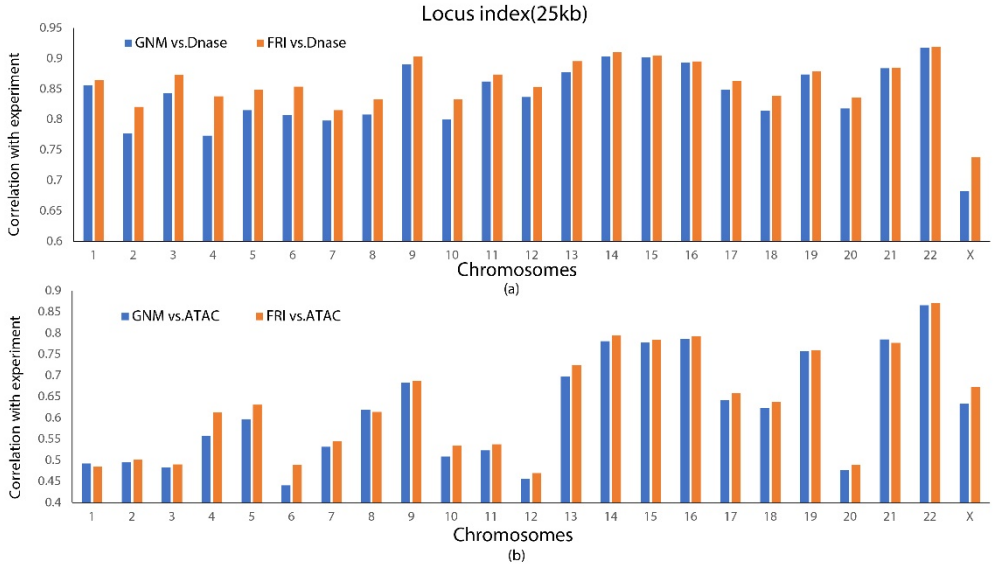


Figure1. Chromosome flexibility analysis with FRI

Main Contributions

- **Figure2. In DNase-seq models, the averages GNM (FRI) SCCs of all 23 chromosomes for GM12878 and IMR90 are 0.838(0.860) and 0.833 (0.847)(1% to 2% increase)**



- **Figure3. Running time of GNM and FRI on 23 chromosomes. A significant reduction of the computational time on FRI can be clearly observed.**