Biarc Approximation
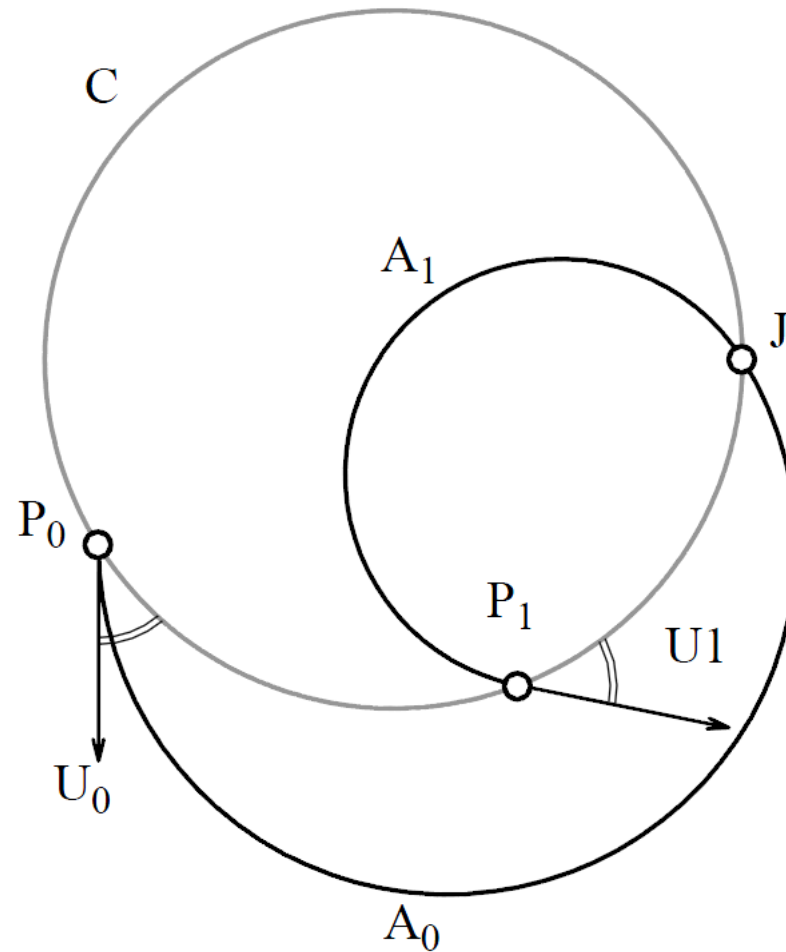
Myung-Soo Kim
Seoul National University
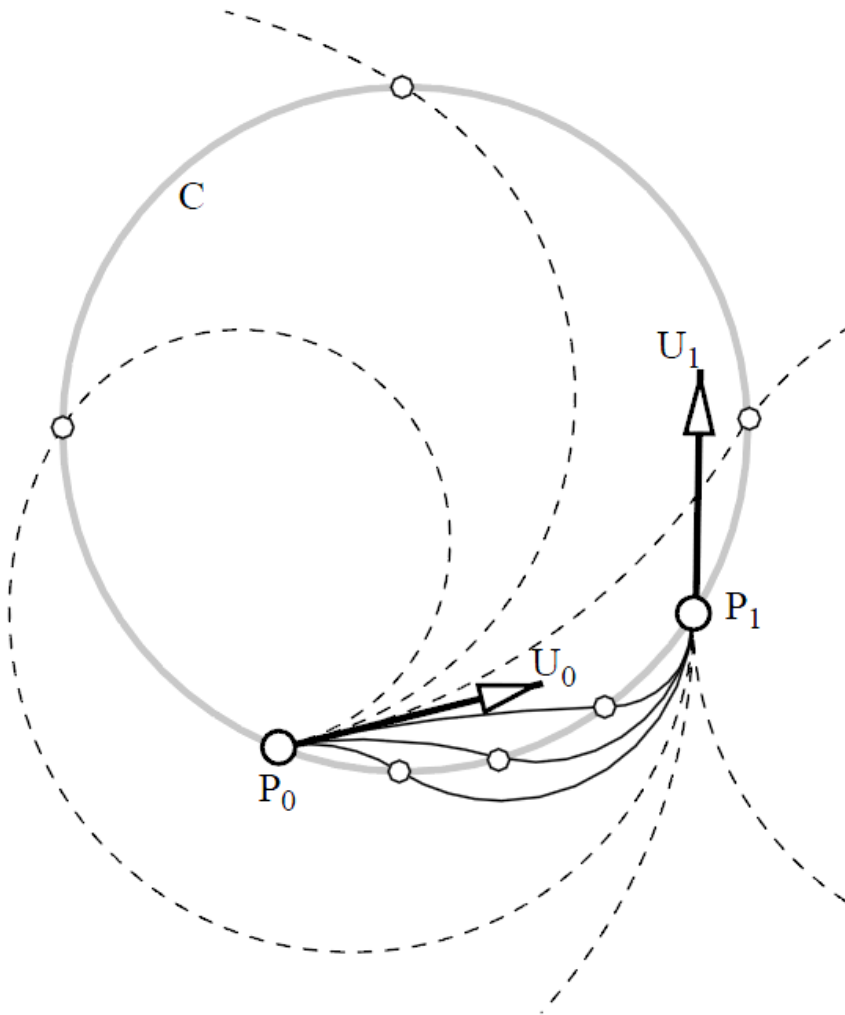http://cse.snu.ac.kr/mskim
http://3map.snu.ac.kr

Biarc (black) and Joint Circle (gray)
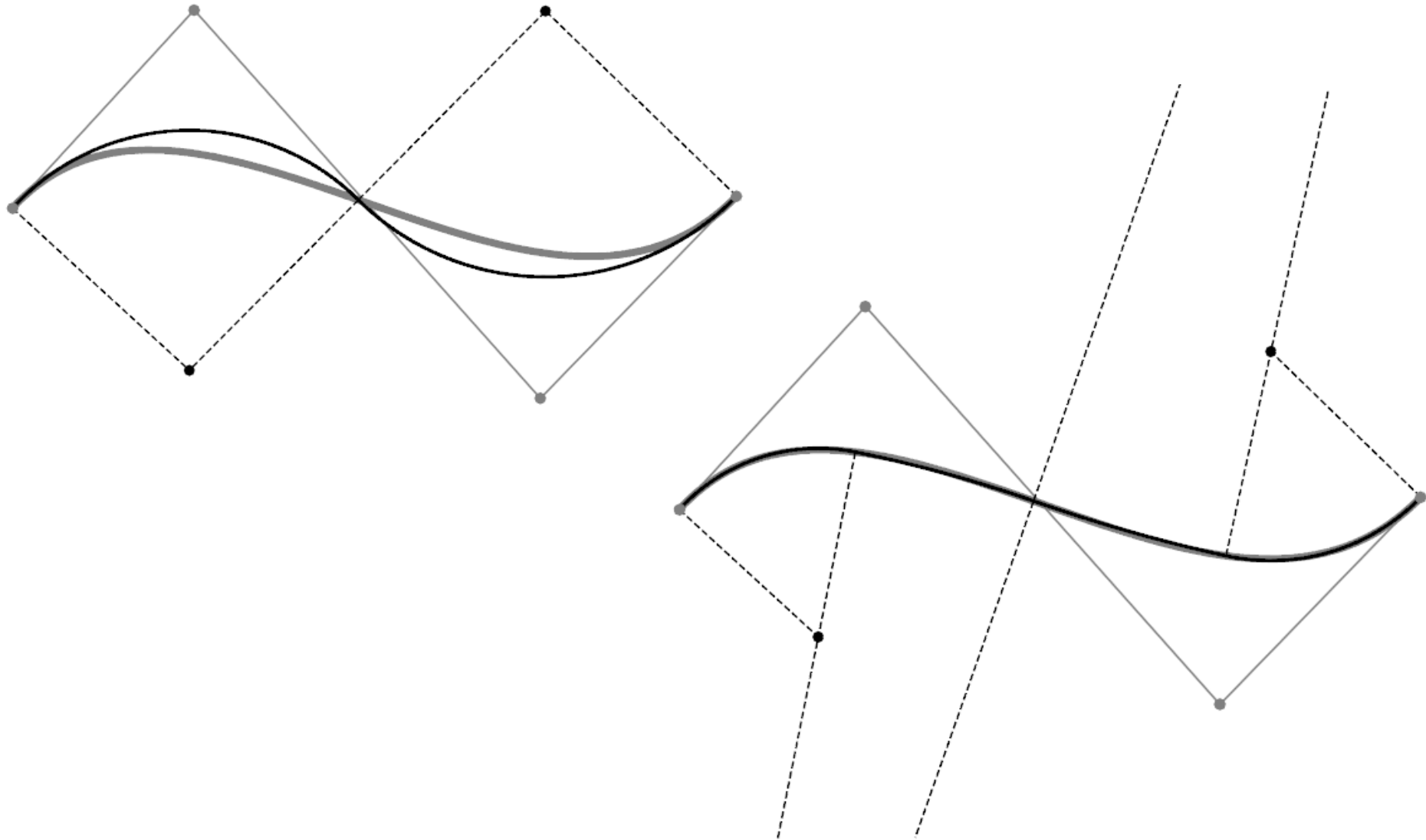
Biarc Interpolating G1 Data

$$\mathbf{P}_0 = \mathbf{c}(t_0)$$

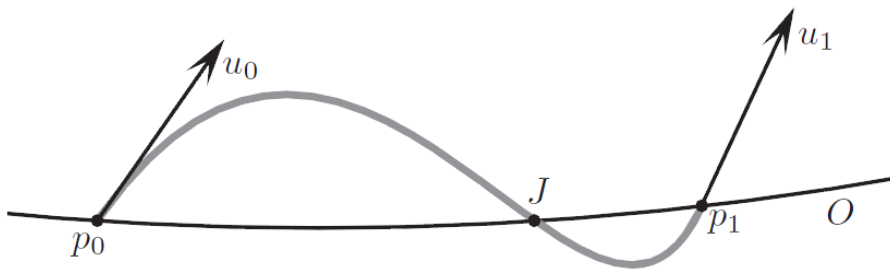$$\mathbf{U}_0 = \frac{\mathbf{c}'(t_0)}{\|\mathbf{c}'(t_0)\|}$$

$$\mathbf{P}_1 = \mathbf{c}(t_1)$$

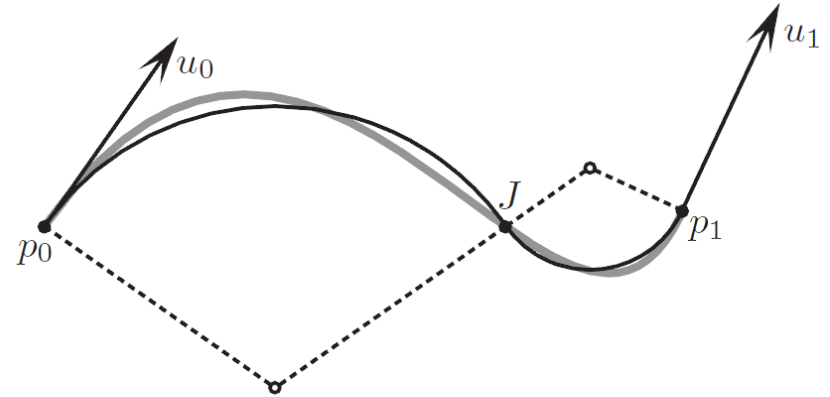$$\mathbf{U}_1 = \frac{\mathbf{c}'(t_1)}{\|\mathbf{c}'(t_1)\|}$$

Biarc Approximation

Biarc Construction

(a)

(b)

Biarc construction: (a) the locus of all possible joints **j** forms a circle O that intersects the given curve at a point **j**, and (b) a pair of G^1 arcs interpolating the end conditions and meeting at the joint **j**.

Distance Map for Circular Arcs